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THE DISTRIBUTION OF CAPITAL AMONG THE MEDICAL PROFESSION IN ENGLAND AND WALES, 1940–1

This investigation owes its origin to an observation, made in the summer of 1945, that an apparently large proportion of the wills published in *The Times* of £20,000 and over were those of medical practitioners. It seemed worthwhile to determine the frequency of this occurrence and the distribution of capital among the profession as a whole. The investigation was completed in December 1945, but publication has been delayed because it was hoped originally to prepare a geographical distribution and also a distribution between general practitioners and consultants. Material has been collected for these but lack of time has prevented the analysis being made.

Five hundred and forty-nine consecutive names of medical practitioners in England and Wales were taken from the lists of Deaths-Medical issued by the General Medical Council between July 1940 and March 1941 inclusive. The estates of 507 of these were traced in the Probate Register, leaving 42 names whose estates could not be traced. By this means it is hoped that a representative sample was obtained of the deaths of medical practioners in England and Wales.[1]

The Probate Register gives the returns made for estate duty purposes of the amount of property in the legal possession of persons at death. These returns are of total personal capital which includes all moveable property such as goods, furniture, stocks and shares and all lands, houses and immovable property. Thus personal capital in the sense used in this study consists only of that part of personal wealth which can be sold, and still exists when the person dies. It does not include professional skill, though in the case of medical practitioners it is obvious that, in so far as medical practices could be sold, goodwill would be included in the value of the estates. This would be true of the estates of most general practitioners and of some consultants. The estates of the remaining consultants would not include goodwill.

It is probable that the total value of individual estates is an underestimate of personal capital. Property, especially household goods, may be undervalued for estate duty purposes, and this undervaluation is proportionately larger on the lower than on the higher valued estates. Gifts *inter vivos* may escape inclusion in the value of the estate of donors at death. Obviously when death duties are high there is a strong temptation for people to distribute part of their estates before death; and therefore there is some undervaluation of the higher valued estates. Articles of material, scientific, historic or artistic interest expressly bequeathed to institutions are excluded for Inland Revenue returns. Subject to these qualifications personal estates can be used as a basis for an assessment of the distribution of capital. A full and critical explanation of the factors involved in this procedure is given by Daniels and Campion (1936).

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[1] The period July 1940—March 1941 was chosen because it was the latest for which full data could be found in the Probate Register. There is a possibility that a slight bias was introduced into the sample by the deaths of young practitioners on war service but during this period such deaths could not have been numerous. This bias would, if it had any exect, tend to lower the average amount of capital and make the distribution seem more unequal.

TABLE I

Number of persons in each capital and age group in the sample of Medical Practitioners

Capital (£)	*Age* 25—	35—	45—	55—	65—	70—	75+	Total
100 or less	—	—	3	1	—	—	2	6
100–1,000	14	3	2	7	7	6	27	66
1,000–5,000	19	22	18	33	27	18	41	178
5,000–10,000	3	9	10	25	21	15	22	105
10,000–25,000	1	8	8	22	16	26	34	115
25,000–100,000	—	1	3	4	6	5	13	32
100,000+	—	—	—	—	—	2	3	5
Total	37	43	44	92	77	72	142	507
Not traced	5	6	3	6	7	15	—	42

Table I gives the estimated number of medical practitioners in each capital group in the sample. Estates of £100 or less passing at death are exempt from estate duty and these are not necessarily included in the estate duty returns. It must therefore be assumed that the forty-two names whose estates could not be traced should be added to the group leaving £100 or less. They have not been included in the results for the sample of medical practitioners, but the assumption that they left £100 or less has been made in assessing the distribution of capital among the total population of medical practitioners in England and Wales.

The approximate age at death of each of the five hundred and forty-nine doctors in the sample series was estimated by the addition of 24 to the number of years since qualification. The distribution of the sample by age and capital group is shown in Table I. These represent the deaths occurring over a period of nine months and, before any further calculation was possible, it was necessary to multiply each of these figures by the factor 4/3 in order to adjust the number in each age group to deaths in the year. The figures obtained were then multiplied by the reciprocal of the mean annual death rate for each group of medical practitioners as given by the 1931 census. In this way an approximation was obtained to the distribution of medical practitioners in England and Wales according to age and capital group (see Tables II and III). It is unfortunate that figures for the mean annual death rates of medical practitioners for the period of the sample, July 1940–March

1941, are not available, but it is unlikely that the rates would be substantially different from those given by the 1931 census. The approximation can therefore be regarded as reasonable and this is confirmed by the fact that the total figure obtained by these calculations of 45,467 medical practitioners in England and Wales corresponds very well with the figure of 42,451 given by the 1941 Medical Directory as the total numbers of the medical profession in London, the Provinces, Wales and the Services.

TABLE II

Estimated number of persons (25 *and over*) *in each Capital group for all Medical Practitioners* (*England and Wales* 1940–1) *and for the General Population* (*England and Wales,* 1924–30)

Capital (£)	Medical Practitioners		General Population	
	Number	Percentage	Number (000's)	Percentage
100 or less	5,134	11.3	17,052–17,562	76.3–78.6
100—1,000	7,721	17.0	3,468–3,862	15.5–17.3
1,000–5,000	18,665	41.1	949– 1,035	4.2–4.6
5,000–10,000	6,994	15.4	177– 192	0.8–0.9
10,000–25,000	5,723	12.6	116– 125	0.5–0.6
25,000–100,000	1,166	2.6	54– 58	0.2–0.3
100,000+	64	0.14	10– 11	0.04–0.05
Total	45,467	100	22,336	100

TABLE III

Estimated number of Medical Practitioners in each age group (*England and Wales,* 1940–1)

Age	*Number*	*Percentage*
25—	12,505	38.5
35—	12,503	27.5
45—	5,229	11.5
55—	5,001	11.0
65—	2,364	5.2
70—	1,637	3.6
75+	1,228	2.7
Total	45,467	100

In order to estimate the total amount of capital in the possession of the total number of medical practitioners in England and Wales, the mean amount left in each capital and age group of the sample series was multiplied by the assessed number in each capital and age group. This gives an approximation of the total amount of capital. Its distribution according to age and capital groups is given in Tables IV and V.

The figures for the general population are those given by Daniels and Campion for the period 1924–30, and though the actual amounts may differ from those which would be given by a similar survey for 1940–41, it appears unlikely from their study that there would have been any significant change in the distribution. These figures therefore may reasonably be compared. From this data it is possible to calculate the average capital in each age group. The results in Table VI give some idea of the growth of capital during a medical career, i.e. of savings, assuming that each generation of practitioners

TABLE IV

Amount of capital in each capital group for the sample of Medical Practitioners, for all Medical Practitioners (England and Wales, 1940–1) *and the General Population (England and Wales,* 1924–30)

Capital (£)	Sample of Medical Practitioners		Estimate for all Medical Practitioners		General Population	
	Amount (£000)	Percentage	Amount (£000)	Percentage	Amount (£ mill.)	Percentage
100 or less	0.3	0.006	16	0.01	500– 900	3.6– 6.1
100–1,000	29.8	0.6	3,300	1.4	1,471–1,632	10.4–11.1
1,000–5,000	491.3	9.4	52,100	21.0	2,393–2,610	17.0–17.7
5,000–10,000	764.1	14.6	50,100	20.3	1,405–1,519	10.0–10.3
10,000–25,000	1,808.2	34.6	83,300	33.7	2,023–2,177	14.4–14.8
25,000–100,000	1,412.0	27.0	49,300	19.9	2,625–2,813	18.6–19.1
Over 100,000	720.3	13.8	9,200	3.7	3,266–3,504	23.2–23.8
Total	5,226	100	247,316		13,683–15,15	100

TABLE V

Estimated distribution of capital among Medical Practitioners according to age group (England and Wales, 1940–1)

Age	*Amount* (£000)	*Percentage*
25—	36,900	14.9
35—	70,100	28.4
45—	40,000	16.2
55—	41,400	16.7
65—	21,600	8.7
70—	22,200	9.0
75+	15,100	6.1
Total	247,300	100

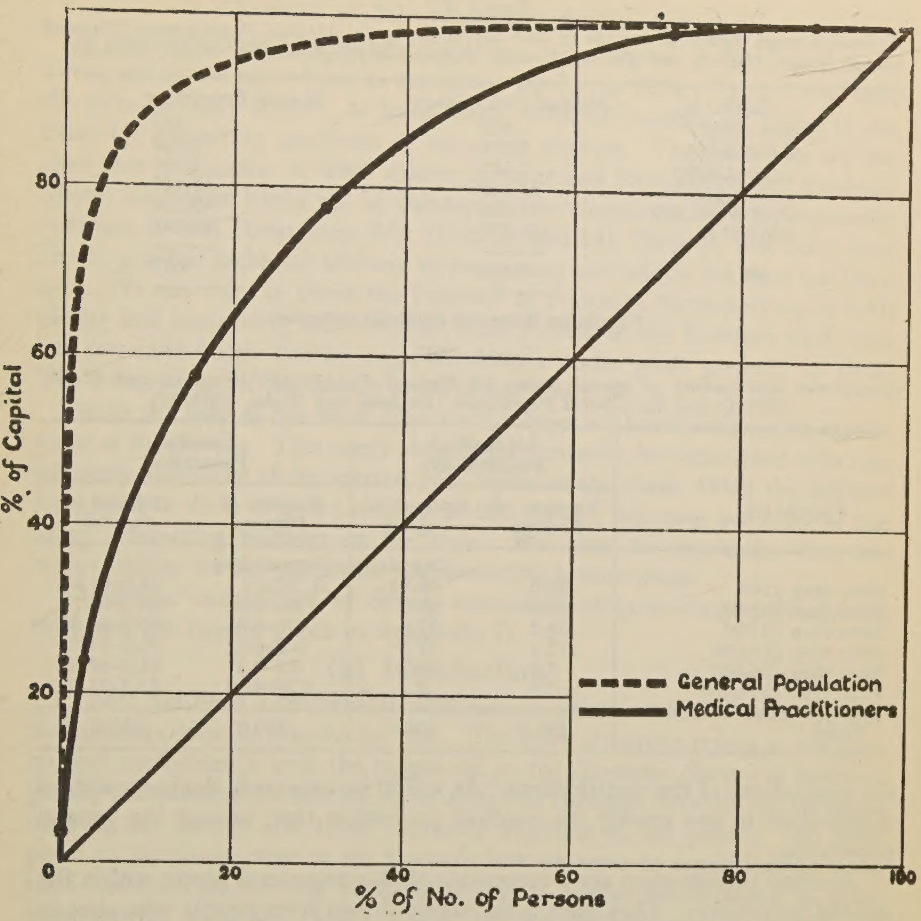
starts with the same capital at entry. They confirm that the possession of capital increases with age up to 70, after which age it decreases as practitioners retire and live on their savings.

The mean capital in each capital group has been calculated for the sample of medical practitioners, and thus for the whole medical profession in England

TABLE VI

Estimated average capital in age group of Medical Practitioners

Age Group	*Average Capital* £
25—	2,108
35—	5,607
45—	7,650
55—	8,278
65—	9,137
70—	13,561
75+	12,296
All	5,439



and Wales. These results are compared with those for the general population in Table VII. From these it can be seen that the mean figures for the medical profession and the general population are similar up to the £1,000—£5,000 group. Above this the means of the general population are higher than those of the medical profession, and diverge more the higher the group.

By the use of the Lorenz chart it is possible to compare the cumulative proportions of capital ownership (from Table VIII) and thus to compare the inequality of the distribution of capital among the medical profession and among the general population. The diagonal of equal distribution is that given when all the capital is equally distributed among the population, i.e. when 10 per cent of medical practitioners own 10 per cent of the capital and 20 per cent have 20 per cent of the capital. The areas between the line of equal distribution and the curves given by the actual distribution of capital among the medical profession and the general population, can be taken as measuring

TABLE VII

Estimated mean capital in pounds in each capital group for Medical Practitioners (England and Wales, 1940–1) *and for the General Population (England and Wales,* 1924–30)

Capital (£)	*Medical Practitioners*	*General Population*
100–1,000	427	423
1,000–5,000	2,791	2,522
5,000–10,000	7,163	7,924
10,000–25,000	14,555	17,427
25,000–100,000	42,281	48,554
100,000+	143,750	322,381
All	5,439	612*

* Includes those not gainfully occupied.

TABLE VIII

Cumulative distributions of capital among all Medical Practitioners (England and Wales, 1940–1) *and the General Population (England and Wales,* 1924–30)

Capital (£)	All Medical Practitioners		General Population	
	Number of Persons	Amount of Capital	Number of Persons	Amount of Capital
	(Cumulative percentages)			
More than £100	99.0	99.99	21.3–23.7	93.6–96.8
More than £1,000	80.1	98.6	5.8–6.4	83.2–85.7
More than £5,000	34.2	77.6	1.6–1.8	66.2–68.0
More than £10,000	17.1	57.3	0.8–0.9	56.2–57.7
More than £25,000	3.0	23.7	0.2–0.3	41.8–42.9
More than £100,000	0.3	3.7	0.04–0.05	23.2–23.9
Total	100.0	100.0	100.0	100.0

the inequalities of the distributions.[1] As would be expected, the inequality of distribution is less among the medical profession than among the general population.

Medical practitioners are a comparatively homogeneous group within the general population. They have been largely drawn from people who already possess adequate capital, and, there is much less scatter in earning power within a single profession than there is between the wide variety of occupations among the general population. From Table VIII and the Lorenz curve it can be estimated that about three per cent of the wills of £20,000 and over are those of doctors. This is a smaller proportion than suggested by the observation that prompted this enquiry.

LEONARD HAMILTON.

References :

Daniels, G. W. and Campion, H. (1936), *The Distribution of the National Capital.* Manchester University Press.

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[1] The ‘Gini’ coefficients are .92 for the whole population and .63 for the medical profession.

1949: FORECAST AND FACT

A CRITIQUE OF THE ECONOMIC SURVEY FOR 1949.

A research class in economic statistics was formed in the Michaelmas Term, along the same lines as the initial one in the Hilary Term,[1] and with the same primary object: to learn about statistical sources by trying to use them for answering questions of economic interest. The main aim set the class was to discover to what extent the text and forecasts of the *Economic Survey* have been borne out by subsequent developments. We are especially indebted to Mr. Hargreaves, Mr. Holland, and Mr. Sargent, who have very kindly acted as technical advisers to the groups into which the class has been split. We also want to thank the Institute of Statistics, for supplying us with library and computing facilities, and Miss Powell, of the Institute staff, who has provided much clerical help, sometimes under great pressure of time. The composition of the class is given in Appendix I.

With the help of the work done by the class, we have written this assessment of the *Survey*. This paper should not, however, be considered either an adequate summary of the results, or a report of the class. What the authors have tried to do is to give a critique of the *Survey*, bringing out some of the more interesting findings of the class. We want to emphasise that the responsibility for the particular interpretation is ours alone.

A tabular comparison of *Survey* forecasts with (sometimes preliminary) estimates for 1949 is given in Appendix II.

(a) Introduction

There has been a remarkable extension of official statistics since the war and all users must be grateful for this. The work of anyone trying to compare current performance with the targets set in the *Economic Survey* is however greatly complicated by differences in units and coverage between the statistics used in the *Survey* and those currently available to the public. We shall point to the worst cases as we proceed, but we want to stress that to leave such obstacles in the way of those trying to assess development is quite incompatible with the Government's oft-declared reliance on public co-operation.[2] The effectiveness of the *Survey* as a ' working pattern ' for the year's economic activity must be greatly reduced by the inability of the public to see exactly what progress is being made and thus what extra efforts or modifications in direction are required.

The lack of official adjustment to programmes is also rather odd. There have occasionally been revisions of targets, particularly for exports, but in general the Government has been content to state early in the year what needs doing, and then to leave the public without further detailed guidance until the following year is well under way. The whole approach to the interim period between *Surveys* implies a scepticism as to the influence of the *Survey's* plans on economic developments which may well be justified, but which is somewhat at variance with the declared philosophy of ' democratic '

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[1] See the report in the BULLETIN, Vol. 11, Nos. 2–3.

[2] *Vide*, e.g., 1947 *Survey*, Foreword, p. 9, and pp. 31–2 ; 1948 *Survey*, p. 59.

(as opposed to 'totalitarian') planning. Basing policy on someone's appreciation of what must be done, means taking care to keep him fully informed of what is happening and of what is expected from him in the near future.

The biggest economic puzzle facing anyone who tries to review the *Economic Survey* at this date is how to reconcile the success in raising production to a much greater extent than was forecast with the disastrous opening of the 'dollar gap' during the summer. We shall follow the order of the *Survey*, first reviewing home production, paying particular attention to productivity and investment; then assessing the responsibility of various factors for the run on our hard currency reserves; and finally returning to an examination of manpower and inflationary pressure at home. We shall keep throughout mainly to the events of the nine months before devaluation, because the material for a review of the effects of devaluation is not yet nearly adequate.

(b) Production

The *Survey's* authors do not give explicit productivity targets for particular industries. In fact the undertaking in para. 132 of the 1947 *Survey*, that 'the Government proposes to invite the representative organisations of industry to co-operate with it in an attempt to establish the facts' on productivity, has hardly been carried out. It is, however, now possible to discuss productivity changes with more precision for two main reasons. The arrangement of employment statistics on the Standard Industrial Classification allows one to use for the first time production and employment data with about the same coverage;[1] and, secondly, these calculations are now less affected by changes in work in progress or by the elimination of critical shortages. The well-known qualifications to productivity comparisons still of course apply. The production series used often cover only a part of the output; price deflators employed may be inaccurate; the amount of work in progress is still changing; labour is treated as homogeneous—and so forth. Still we shall try to get some pointers on the current trend of productivity, because of the great importance of this factor. The manpower statistics on the new basis are only available for June, September and December 1948, but linking them with the old series provides satisfactory estimates for other months.[2] Dividing production indices by employment indices we obtain the following estimates for the sector covered by the Interim Index of Industrial Production:

1949	*Productivity as a percentage of corresponding months in* 1948
January–February	104
March–April ...	104
May–June	108
July–August... ...	105
September–October...	105
First ten months ...	105.3

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[1] Unfortunately production indices include, but employment statistics exclude, N. Ireland

[2] In all the following calculations the employment figures at the end of any month are taken to refer to both adjacent months and compared to the index average for the two months. The Jan.–Feb. comparisons are based on the old employment statistics.

There is no evidence here of a slackening of the rate of increase of productivity, which has been 4 to 5 per cent per annum since mid-1947.[1] On the contrary, the rate if anything has risen. Increases of this order are remarkable. Apart from any productivity increases in other sectors, this rise alone is more than enough to enable the total national increase in productivity to exceed the *Survey* target of 2½ per cent. Since enquiries into hours and earnings show average hours worked in industry to be the same for a week in April 1949 as for April 1948, these remarks apply in some degree to P.M.H. as well. If such rises could be maintained for two decades, the industrial product would be more than doubled, and their continuation for the past two years must have contributed greatly to easing our economic problems.

We can apply the same method in detail to the main parts of the industrial sector, with the following results :[2]

	1949 *Productivity as a percentage of corresponding months in* 1948		
	Mining	*Manufacturing*	*Utilities*
January–February	102	105	100
March–April	103	106	102
May–June	102	110	100
July–August...	103	105	98
September–October*	(105)	(106)	(97)
First ten months	103.1	106.1	99.4

*Provisional.

Coal

We can check the mining calculation from the figures of coal output per man shift. At the end of the year, coalface O.M.S. was running at the excellent rate of over 1.20, 5 per cent above end-1948 and well above average pre-war. The year 1949 saw a rise of 3½ per cent at the coalface, and 4 per cent overall. In view of a fall of rather over 1 per cent in shifts worked per week, these are quite compatible with the above calculations, but neither is compatible with the *Survey's* predictions. The *Survey* did not explicitly forecast coal productivity, but the target called for an increase in output of 2½ per cent to 5 per cent compared to 1948. Manpower targets were also given. The target for coalface workers meant an average about 3½ per cent more than in 1938. So the implied forecast productivity per man year by faceworkers for the average of 1949 (1948=100) was 99 to 101½, extremely cautious in view of the development work that has been undertaken. The target for the total labour force would have meant an average for the year about 1 per cent above that of 1948, assuming constant growth, and thus overall productivity of about 101½ to 104 (1948=100).

It looks as if the productivity forecast was set deliberately low, either because a fall in employment was expected (but the expectation could not be admitted), or because it was hoped that in this way a target would be set that would certainly be reached. Experience with coal targets has not of course

[1] See Bulletin, Vol. 11, No. 4, p. 104.

[2] Arrangement in pairs of months avoids the complications of allowing for the change in holiday pattern because of the later Easter in 1949.

been too happy, as is shown by Table 1 of Appendix II. While the rather cautious target for 1949 was only just reached, exports exceeded their lower target of 17 millions, and there have been slight increases in stocks. These developments were made possible by a shortfall in inland consumption of 3 million tons below the lower limit, a shortfall that must be largely due to the unusually good weather.

Reaching the lower output target of 202 million tons (deep-mined) was the result of two balancing errors. Average manpower was over-estimated by some 10 thousand (there being actually a fall over the year) and productivity was under-estimated. The employment position in fact deteriorated rapidly in the autumn, official releases in October were nearly 3 thousand compared with rates of 2 to 2½ thousand a month previously, and 'other releases' had also increased by some 50 per cent over earlier in the year. Juvenile recruitment was not increasing; intake from the Forces and training centres had dwindled away practically to nothing; and transfers from other industries were at a rate well below 1948. The combined effect of these developments was a net drain of over three thousand a month from July to October. The drain has not continued at this rate, mainly because of a lower outflow. The removal of the ' ring fence ' did not cause a renewal of the wastage as some had feared. But the margin on which full output and full employment rest is still a narrow one. The situation has been saved so far by the continuous O.M.S. rise of some 5 per cent per annum since end-1946.

Electricity

The small decrease in ' productivity ' in public utilities shown above is not important, and can also be ascribed partly to the weather, though the increase of 14 thousand in the labour force from December 1948 to October 1949 is slightly surprising.[1] The *Digest* does not permit a comparison of the installation of new plant with the target of 1,000 MW., though the net increase it shows in installed capacity (i.e. new commissioning, less scrapping of old plant) for the first 11 months was only just over 400 MW., suggesting that this target was again not reached. If, indeed, the growth in demand is the 800 MW. p.a. suggested by the *Survey*, the gap between maximum load and peak demands has widened rather than declined since the *Survey* was written. On the other hand, though about a third of large steam turbo-alternators still go for export, there has been a considerable increase in supply to the home market, which has recently been running at a rate of well over 100 MW a month, so that later figures may show sharp increases in installed capacity. The figures for capacity implied on p. 49 of the *Survey* are unfortunately not comparable with those in the *Digest*,[2] but it looks as if peak capacity available was at the start of the winter under 11,000 MW., compared to an estimated peak demand in severe weather of 11,750 MW (allowing for load spreading by industry) or in normal weather of 10,750 MW. It would seem, therefore, that a recurrence of the weather of early 1947 could cause severe ' load shedding ' as it did then, unless capacity has sharply risen in the last few weeks.

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[1] The increase has occurred particularly in electricity, whose labour force is rising by over 10 per cent per annum, but also in water. The apparent increase in hours worked shown by the *M.O.L.G.* is however misleading, being mainly due to the exclusion this year of local authority (non-trading) services.

[2] According to the *Digest* the installed capacity forecast in the *Survey* for 1949–50 was passed in 1948.

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In the manufacturing sector we can for the first time discuss quantitatively the productivity performance of each industrial group. There are some further cautions to observe here, in addition to those given above. Because of the greater instability of the series it appears better to show only 4-monthly totals, but even so the estimates are less accurate than those previously shown.[1] It should also be noted that here we are dealing with output per *employee*, while previously we have been dealing with output per *person* (including proprietors). Finally, as in all these calculations, productivity is ' per year ' and makes no allowance for changes in hours worked per week or in holidays. This may seriously affect figures for particular industries.[2]

1949 *Productivity as a percentage of corresponding period in* 1948

	Jan.–Apr.	*May–Aug.*	*First* 8 *months*
China, Earthenware	103	102	103
Glass	112	101	107
Bricks, Cement	96	102	99
Chemicals	101	101	101
Ferrous Metals	104	106	105
Non-Ferrous Metals	102	101	102
Engineering, Shipbuilding	99	106	102
Vehicles	120	121	121
Other Metal Industries	103	105*	104†
Precision Instruments	111	120	115
Textiles	101	102	102
Clothing	106	106	106
Leather	100	110	105
Food	107	103	105
Drink and Tobacco	102	102	102
Wood and Cork Products	108	111	110
Paper and Printing	122	125	123
Other	96	100	98
All Manufacturing	105	107	106

* May–July. † First 7 months.

Industries fall into three clear groups :

(1) *Those with* 10 *per cent increase or more.* Vehicles, Precision Instruments, Wood and Cork Products, and Paper and Printing.

(2) *Those with about average increase.* Ferrous Metals, Glass, Clothing, Leather, and Food.

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[1] The second four months are based on more accurate employment figures, since they involve less linking, but on some provisional production indices. The closeness of the two estimates for many industries, despite the many drawbacks, is rather encouraging.

[2] A comparison of hours worked in an April pay-week in each year, for what it is worth, suggests little change from 1948 to 1949. Average hours in industry were unchanged, but for a few small industries they have risen sufficiently to suggest PMH below the figures given in the table. These industries are Drink and Tobacco, Wood and Cork, Paper and Printing, and ' Other '.

(3) *Those with small or no increase.* China, Bricks and Cement, Chemicals, Engineering, Non-Ferrous Metals, Other Metal, Textiles, Drink and Tobacco, and Other (mainly Rubber).

Seen in this way the increase in productivity is not so substantial as it superficially appears. There are a few industries doing brilliantly, because of the easing of particular shortages (notably steel and wood); figures for the Precision Instruments group are affected by the over-weighting of lenses; and at the bottom there is a large group of industries making only very small increases.

Steel

Provisional results for Steel are given in Table 2. Production of steel ingots and castings has slightly exceeded the ' upper ' target of 15.5 million tons, though the net deliveries of finished steel have only just exceeded the 'lower' target of 12 million tons. This apparent discrepancy seems to be due partly to a slight shortfall in imports below the expected level of 1 million tons, and partly to an implied assumption that net supply from U.K. production would bear a higher ratio to crude steel available than in 1948, whereas actually this ratio was about unchanged. It appears impossible to reconcile the *Survey* exports of finished steel with the *Digest* figures or the *B.I.S.F. Bulletin* estimates for 1946, 1947 and 1948, and hence it is also impossible to compare target with actuality, but it seems likely from the export figures available that the target was at least reached, and thus that steel available to the home market, was slightly below the lower ' target '. There has been some further building of producer stocks, and usage of steel at home has probably been close to 10 million tons.

Other Raw Materials

The rather low productivity in the non-ferrous metals industry is not surprising, in view of the reduction in supplies. Table 3 contains estimates of raw material consumption compared to targets, at least for those materials on which the *Digest* contains information comparable to the *Survey*[1]. Comparable figures are not available for lead, softwood or paper, though in each case some consumption data of a very similar sort are shown in the *Digest*. Preliminary estimates indicate that consumption of all non-ferrous metals was well below the target, and that in all cases except aluminium it was even below 1948 level (which appears to be true of lead also).[2] Consumption in the wood and paper group has, however, been greater than forecast, and is consistent with the increase in output of wood-using industries. In the case of hardwood and paper materials there have been slight stock increases, but softwood stocks have fallen nearly to 1946 levels and represented at end-August less than 3 months' consumption, though there was a slight recovery in October. Both raw cotton and raw wool consumption appear to have been little more than in 1948 despite the increase in textile production.

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[1] Even for these the comparison is needlessly complicated. For hardwood the *Survey* target is in cubic metres, while the *Digest* information is in cubic feet, and for wool the forecast is in tons, while the current statistics are in pounds.

[2] On the face of it this is rather surprising. However, one explanation might be the use of stocks which have never officially existed, and another the expansion of steel output, reducing the need for substitutes.

Textiles

In 1948 the *Survey's* targets for cotton output were nearly hit, while wool fell a good deal short. The position seems to have been reversed for 1949, with wool about reaching its output targets and cotton falling short, though it will be noted from Table 4 that the targets for wool were much less ambitious—that for woven cloth being in fact below the target set last year. The manpower targets envisaged for cotton meant a labour force about 5 per cent above that of last year, as against a production forecast of nearly 10 per cent expansion in spinning and 7 per cent in weaving, implying a joint productivity increase of about 4 per cent, which has probably not been achieved. For wool the production targets were nearly being achieved with average manpower lower than forecast, so that the overall productivity increase of about 2 per cent implied by the *Survey* has probably been exceeded. Output of rayon cloth seems to have passed the target, but that of yarn is likely to have fallen well short. This is not surprising in view of the different rates of increase planned. From 1946 to date a ratio of 1 mn. lb. of yarn to 2 mn. linear yards of cloth (including mixtures) has been closely maintained, and presumably the ' industrial yarn supplies ' mentioned in the *Survey* have not materialised on a large scale. Comparison of export targets with actual achievements is complicated by the former being given in linear yards while the latter are in square yards.[1] Exports of woven wool piece goods have been exceptionally weak, and for the second and third quarters were in fact well below 1948.

Agriculture[2]

It can be seen from Table 5 that the acreage targets were not nearly achieved. Areas under the crops specified in the *Survey* were in fact, except for sugar beet, below those of 1948. The reduction for potatoes was greater than planned; but in other cases the fall was quite contrary to the programme. For wheat the *Survey* was already sceptically saying, doubtless on the basis of the November crop reports, that ' the prospect of achieving an increase of 250,000 acres has diminished ', and in fact the fall in area was greater than this planned increase, which was rather unrealistic in view of the information already in the hands of the Government. Coarse grain acreage, about which the *Survey* was more confident, also fell short, though there was a substantial increase in the area under mixed corn. The most serious shortfall came in the new crop linseed, where a target increase of 133 per cent actually became a decrease of 35 per cent, the biggest single failure in the *Survey*. The crop shortfalls reflected these acreage failures, though yields were fairly good, considering the drought, which had a much less severe effect than in 1947. One explanation is that though crops in the field were affected, the greater number of combine harvesters, and the clear run provided by the weather, meant a reduced wastage in harvesting.[1] Yields were as follows :—

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[1] One of the *Survey's* drafters must have taken pity on the public because the figures for cotton piece goods are actually in square yards, though they too are tactfully labelled ' linear yds '.

[2] We are grateful to Mr. Britton of the University's Agricultural Economics Research Institute for reading this section for us.

Yield in tons per acre

	1947–8	1948–9 (*Forecast*)	1948–9 (*Actual*)	1949–50 (*Forecast*)	1949–50* (*Actual*)
Bread Grains ...	.77	.96	1.03	.96	1.08
Other Grains ...	.77	.86	.92	.86	.92
Potatoes	5.8	7.0	7.6	7.0	6.8
Sugar Beet ...	7.5	9.0	10.5	9.0	8.7
Linseed	.39	—	.41	.50	.40

*Not quite final. See note to Table 5.

Total production figures are given in Table 5. For the grain crops production targets were more nearly reached than might have been expected at the beginning of June, though the reduction compared to 1948 is serious in view of the dollar cost of grain. The explanation of the failure of the acreage targets is a rise of half-a-million acres in grassland, an increase divided about equally between permanent grassland and land under clover or rotation grasses. This was associated with a considerable increase in tonnage of hay produced, which is now nearly at pre-war levels, despite a reduced area,[2] and which must be considered something of an offset to the failure of the main crops. There was also a substantial increase in grassland for grazing. It is early to judge livestock progress for 1949–50. Milk started badly, due to the drought, but should eventually yield more than expected. The egg forecast is difficult to check, because the *Digest* does not give production figures, but a comparison of consumption and imports suggests that home production is barely reaching the target. Meat output is doing very well, particularly pig meat, and the impression one gets is that farmers have made a slight and unexpected swing into livestock production. It will be shown below in the section on Inflation that 1949 saw a reversal of the previous tendency for cereal price increases to outstrip those for livestock products. It seems therefore that this unplanned swing into livestock production was due to excessive official confidence that persuasion would prevent a return to the traditional livestock farming, despite a rise in relative prices of livestock products arranged in the February price review and though wartime powers to compel cereal production have virtually lapsed.[3] Fertiliser consumption has continued slightly to expand, particularly of ground basic slag and liming materials. On the whole it was not a bad year for agriculture, in view of the absence of rain and the failure of manpower to rise. The September figures indicate a rather sharp fall in *employed* labour, which may become dangerous if it is continued this year. Separate figures are not given in the *Digest* for landings of white fish, to compare with the target of 1 million tons, but total landed weight for home food consumption was lower than in 1948 and it can be deduced that the target for white fish was not reached. It is not possible to show the progress of the proportionate contribution of home production to food supplies (*Survey*, Table 6), but in view of the increases in the volume of food imports in the summer and autumn, this may have fallen off slightly.

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[1] A thousand combines were manufactured in the agricultural year 1948–9, nearly all for the home market. In the circumstances the grain yields implied by the forecasts were very cautious.

[2] Largely attributable to the increase of the proportion of *temporary* grassland to a half. Yields of seeds hay are normally up to 50 per cent better than those of meadow hay.

[3] This over-confidence in the ability of persuasion to counter financial forces seems to pervade Government economic thinking.

On the whole production has been most satisfactory, particularly in manufacturing, though there are indications that improvement cannot be quite maintained at the 1949 rate.

(c) Investment

The task of judging progress in capital investment is formally similar to that of interpreting one of the Rorschach psychological tests. The outline of the picture is there but a large part is left to subjective judgment.[1] The task is not made any easier by the absence of any official reconciliation between the estimates for construction given in the *Survey*, which are classified according to purpose of construction, and the estimates in the *Digest*, shown on a curious classification hybrid between type of organisation and purpose of construction. Nor is it possible even to reconcile the summary analysis into ' construction ' and ' plant ' in Table 7 of the *Survey* with the details in the Appendix.

We therefore cannot reconstruct Table 7 of the *Survey* from published data, or comment in detail on the Capital Investment Appendix. With the help of some thorough research by Miss Moore of Lady Margaret Hall,[2] we can make some marginal notes on what has been happening. These notes *inter alia* suggest the limits to comment set by the lack of information on capital investment, which is, despite its vital importance, the least adequately documented sector of the economy.

Fuel and Power. According to the hardly comparable *Digest* figures, work done by the building and civil engineering industry for mining was at about the same level as 1948. Deliveries of machinery, however, to the home market seemed in all cases, except underground diesels, slightly down on 1948,[3] and the increase in imports appeared hardly enough to provide an increase in total investment. As described above, increase in electricity capacity is also apparently below programme. Likewise we can only infer from the lack of increase in gasworks capacity that the scheduled extension has not taken place. There appears to be no evidence about the success of the petroleum investment programme.[4]

Transport, Communications and Shipping. Investment in locomotives (especially)[5] and carriages was apparently below plan, and in wagons above, but otherwise we have no means of checking railway targets. There is no information at all about roadmaking investment. The target value of new commercial road vehicles for the home market was passed in the autumn, and looked like being heavily exceeded as in 1948 (apparently because of export frustration). It may even have been near 1948 levels. Use of the London and Cambridge Economic Service Index for shipbuilding and repairing suggests that (in fixed prices) the *Survey* target for shipbuilding was exceeded and that 1948 levels were reached. Looking directly at the tonnage completions for the first eleven months, and assuming the same seasonal pattern as in 1948, it seems that building of tanker and other[1] ships for export exceeded *Survey* forecasts by substantial margins. It also seems, however, that completions for the home market were substantially above expectations. Net additions to our fleets do not seem, however, to have been so substantial, for the total on U.K. and colonial registers[2] probably only increased in the year by some 300,000 tons (compared to over twice as much tonnage built for the U.K. alone), which suggests the extent of laying up and selling. There is little information available for the remaining (and smaller) parts of this category, except that home deliveries of civil aircraft have been almost entirely eliminated by the export drive, and were well below 1948. From May to November out of 268 civil aircraft delivered, only 3 went to domestic buyers. It was however intended to use American types for re-equipment of the British Corporations, and in view of development work on British prototypes, the investment target may nonetheless have been reached. On the whole, it seems that investment in transport has succeeded the target.

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[1] And just as the Rorschach tests reveal personality traits, such statistical interpretation may disclose more about the political bias of the investigator than about the situation being analysed.

[2] Assisted by Mr. Grézo.

[3] A third of underground locomotives and coal-cutters were being exported in the first eight months of 1949.

[4] Rather misleadingly included in the Capital Investment Appendix but not in Table 7.

[5] Exports of locomotives have consistently taken half our output.

Agriculture, Forestry and *Fisheries*. Farm building appears to have been only a fraction of that for 1948, and the (incomplete) *Digest* figures for agricultural machinery indicate no rise in home deliveries despite a sharp fall in exports. Since investment in the rest of the sector is relatively small it seems likely that total investment in this sector was below target.

Industry. The *Digest* figures of value of industrial building, again not quite comparable, suggest a fall in 1949 as against the forecast rise, despite the ' high place in the allocation of resources ' it was to be given. The only figures available for completions refer to the Development Areas, and these suggest about the same value as 1948.[3] If we look at the development areas in detail it seems that completion was well *below* 1948 for the North-east and South-west, but *above* for Scotland, the newly scheduled area Merseyside,[4] and the smaller areas, West Cumberland, Wrexham and South Lancashire. So far as approvals of projects are concerned, 1949 saw a definite revival of the policy of steering projects to the Development Areas. Measured in value, projects for the Development Areas were only responsible for about 5 per cent of the national total for the last quarter of 1948, as against 52 per cent for the 3½ years ending June 1948.[1] This ratio was 9 per cent for the first quarter of 1949 but recovered to 35 per cent for the second and third quarters, so that the reaffirmation of Development Area policy in para. 44 of the *Survey* is being borne out. Value of approvals were higher in 1949, but this is largely due to the Merseyside, which had 122 contracts, worth over £6 million, approved in the second quarter alone. South Wales had only a fraction of the approvals of 1948, however, and there is evidently some shift northwards in Development Area policy, despite the core of unemployment in Wales which at around 4 per cent has remained the highest in the country. There is a strong case for the *Ministry of Labour Gazette* publishing unemployment figures for the Development Areas, since these are available.[2]

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[1] Figures only refer to ships of 1,600 tons and over. Average 1947 and 1948 ratios were used to gross these estimates up to make them comparable with the Survey. The difference is of course small.

[2] Vessels over 500 tons.

[3] The number of *completions* exceeded those in 1948, however, and this suggests that the factories now being completed are rather smaller on average.

[4] Merseyside completions were nil in 1948, very high last spring, and oddly enough negative in the summer. One project worth £6,000 was taken off the cumulative total in August Graphically this would provide a cumulative time series that was not monotonic, something of a statistical oddity.

So far as individual plant is concerned, we can get some indication by comparing movements in the *L.C.E.S.* index for production of industrial equipment with movements in imports and exports. This comparison suggests that the home market absorption was some 2–3 per cent above programme for the first three quarters of the year, even though exports of machines have stayed up very well (presumably because of the persistent non-dollar demand), 35–40 per cent of machine tools, for example, going to export. The shortfall in construction however was so large that on balance industrial investment was probably below programme.

Housing. *Digest* figures, even in the rather more useful arrangement in the *L.C.E.S. Bulletin*, do not permit an assessment of the housing progress envisaged in the *Survey*.[3] Adding work done by employees of local authorities to that done on housing by the building industry gives results about £60 millions above the *Survey* estimates for 1947 and 1948. The total of these items for the first three quarters of 1949 suggests little change in the value of housing work done, which is hardly compatible with the forecast fall of 12 per cent at fixed prices. Another way of looking at this is to note the employment on housing which seems to have averaged nearly 30,000 (or 5 per cent) below 1948. On productivity for *all* building we can make the same sort of tentative calculations as have been already made for industry. These give us the following comparison :—

	1949 *Productivity as percentage of corresponding months in* 1948
January–February	103
March–April	101
May–June	105
July–August... ...	107
September–October*	(107)
First ten months	104.6

* Provisional

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[1] See Dr. Balogh, BULLETIN, Vol. 11, No. 4.

[2] See *Distribution of Industry* White Paper (Cmd. 7540), Appendix 4.

[3] Since the Ministry of Health is not so incompetent as to fail to estimate the total current value of work being done on housing for its own purpises, the *Digest* estimates are presumably a statistical smokescreen.

It seems the rise in productivity may have been of the same order as the reduction in employment. Thus no great fall in the volume of work on housing done by the industry is indicated. The *Survey's* error seems to have lain in forecasting that work on repairs and improvements ' will show only a slight increase '. The first half showed £108 millions expenditure on this, compared to £94 millions for the first half of 1948,[1] while employment on repair and maintenance rose from 174,000 in June 1948 to 191,000 in June 1949, thereafter remaining stable. The *Survey* apparently over-estimated the extent to which ' present costs are likely to act as a deterrent ' to property-owners. It therefore seems that investment in housing exceeded the target substantially.

Social Services. The *Survey* planned an increase in building from £65 millions in 1948 to £100 millions in 1949. Information is available only on education and health, which were responsible for 71 per cent of the 1949 target, and only partially for these. Work done by the private sector of the building industry rose from £18 m. in the first 9 months of 1948 to £22 m. in the same months of 1949, and the work done by the employees of local authorities for social services can hardly have increased much. There were a striking number of new schools completed June–Oct.—37, compared with 76 from 1945 to June 1949. This, is however, not much of an indication of current work. Nor is the sharp rise in the value of approvals for £8m. in each of the first quarters to £14m. in the third (much of which will have been cancelled subsequently). A better indication is given by the fact that of the £45½m. programme ' on which work should be started in 1949 ', only £14½m. worth had seen a start by end-October. A further hint is provided by the failure of employees on ' other building work ' to rise sharply. Altogether it seems likely that there was a substantial shortfall in this category.

Summarising, it would seem that investment in fixed capital was not very different from forecast, but with rather less construction. In fact it was only because of some frustration of machinery exports that we were at or near the anticipated overall total. Within that total, housing failed to make the expected decline, an implied redeployment of labour from housing to industry and agriculture having failed to materialise. The total labour force for industrial and agricultural construction in fact fell from 230,000 in autumn 1948 to just over 200,000 in autumn 1949, and investment in these critical sectors was probably below 1948.

(d) The Balance of Payments

The First Six Months

With regard to the balance of payments, the objectives laid down by the *Economic Survey* were very general, and the actual forecasts made were decidedly cautious. It was hoped, and apparently also expected, that the relatively satisfactory position which was reached during the second half of 1948 would be consolidated and in certain respects improved. A small deficit was forecast for the first half of 1949, because the volume of imports was expected to increase, and because certain non-recurring receipts were partly responsible for the improvement during 1948. However, the *Survey* stated also that ' we expect this year to be able to reduce our dependence on foreign aid and to reduce the balance of payments deficit of 1948.'[1] It appears that the Government was anticipating a slow but steady rise in the value of exports, which would be offset in the first half of the year, but probably not in the second, by increases in imports. This is borne out by the fact that the *volume* of exports which was forecast for the first half of 1949 was 150 per cent of the 1938 level, while the target for the end of 1949 was 155 per cent. It was also expected that during the first half of the year there would be a slight increase in the proportion of exports going to the Western Hemisphere, and on the other side a slight decrease in the proportion of imports from that area ; and it was presumably hoped that this tendency also would continue in the second six months. However, in the *Survey* itself detailed forecasts were made only for the period from January to June, on the grounds that ' the prospects for the balance of payments in the latter half of the year are particularly uncertain because the amount of E.R.P. assistance we may receive remains unsettled.'[2] The first stage in our analysis, therefore, is a comparison between these estimates and the developments which actually took place.

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[1] Unfortunately a change of classification, without the provision of sufficient details for linking, makes third quarter comparison impossible.

The *Survey* predicted that over the first half of 1949 there would be a deficit on current account of approximately £15 m., a deficit of £50 m. with respect to visible trade being partially offset by a surplus on invisible account of £35 m. The provisional estimates, published in *Cmd* 7793, show a ' visible ' deficit of £48 m. and an ' invisible ' surplus of £38 m., so that the total current account deficit is given as £10 m. The correspondence between the two sets of figures is therefore remarkably close, but more detailed examination reveals important divergences between forecast and fact. These relate, firstly, to the behaviour of merchandise imports and exports (on the invisible side, the forecasts were extremely accurate), and, secondly, to developments within the capital account.

So far as the merchandise account is concerned, the overall figures require little comment, but one curious statistical anomaly may be noted. The *Survey* forecast, for the first half of 1949, an increase in the value of exports of approximately 11 per cent, and an increase in the value of imports of about 10 per cent, as compared with the second half of 1948. The expected increases in volume were respectively 4.9 per cent and 2.5 per cent, so at first sight it appears as though the assumption had been implicitly made that export prices would increase by about 6 per cent, and import prices by about 7 per cent. However, this cannot be reconciled with the *Survey's* explicit statement[3] that ' in estimating the balance of payments for the first half of 1949 import and export prices have been assumed to be unchanged.'[4] The explanation of this must be that the volume indices are based on the Board of Trade statistics, while the estimates for the value of merchandise trade are derived from the White Paper on the Balance of Payments. The authors of the *Survey* apparently foresaw that the two series would move rather differently in the first half of 1949, and that the value of payments received for imports and exports would increase faster than the value of goods shipped.[1] However, even when this is taken into account, the explanation is not quite complete : for the volume both of imports and of exports was slightly higher than had been forecast, while their prices also rose slightly, so that the extreme accuracy of the *Survey's* predictions appears to have had a certain fortuitous element.

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[1] p. 40. [2] p. 16. [3] p. 20.

[4] Unchanged, that is, at the levels ruling at the end of 1948, which were in each case slightly higher than those which prevailed over the whole of the second half of the year.

The most important discrepancies, however, occur within the total figures. In the case of exports, they relate to the distribution of the total between areas and also between the two quarters. Whereas in the first quarter of the year the volume of exports quite considerably exceeded expectations, there was a serious decline in the second. (The respective volume indices were 156 and 146). Similarly, although the export performances of different commodity groups compare relatively favourably with the forecasts given in the *Survey*, this comparison also obscures the setback to exports which occurred in the second quarter. It can be seen from Table 9 that in most cases the volume of exports in the first half of the year exceeded official expectations, and even where this was not true, the volume of exports was (with the single and relatively unimportant exception of coal) greater than that attained in the second half of 1948. However, the volume indices for the second quarter of the year were in general below the *Survey* forecasts, and in some cases were lower than those for the scond half of 1948. This decline in exports was particularly serious, since it occurred most conspicuously—apart from shipments to the Argentine, which were apparently affected by difficulties in connection with the trade agreement—in exports to the United States, so that the proportion of exports going to the dollar area fell, instead of increasing as the *Survey* had hopefully anticipated.[2] All British exports to the U.S. suffered to some extent, but the fall was especially severe in the case of vehicles.

On the other side of the balance, there were unforeseen developments in both the commodity composition of imports and their distribution between areas. Table 11 shows that the volume of petroleum, and of ' other imports ', was considerably greater than had been expected, but that in the two most

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[1] The actual percentage increases in value were :

	Exports	*Imports*
Board of Trade	5.6	6.5
White Paper	10.0	9.9

In this connection, it is a lamentable defect in official statistics that it is not possible on the basis of published information, to compute the c.i.f. value of the White Paper categories of imports from the Board of Trade statistics, which use a different classification (Cf. the note to Table II).

[2] The proportion (excluding re-exports) was 9.5 per cent in the first quarter and 8.6 per cent in the second. The volume of exports to the Western Hemisphere, instead of rising to 150 per cent of the 1938 level, seems to have fallen slightly below the level (139 per cent) reached in the second half of 1948.

important groups, food and feeding stuffs and raw materials, the actual results were very close to the *Survey* estimates, so that the increase in the total volume of imports did not greatly exceed the planned increase. Once again, however, there were important differences between the first and the second quarter. In the first, the volume of imports was 82 per cent of the 1938 level, while in the second it was 88 per cent. Most of the main categories seem to have shared in this increase, but the most conspicuous rise was in imports of raw materials. The volume indices for the two quarters (computed by the method described in the note to Table 11) were, respectively, 83 and 95.[1] Among other commodities, there were substantial increases both in volume and value, in imports of cotton, wool, hides, timber and iron ore. However, the f.o.b. value of raw material imports over both quarters was lower than that forecast in the *Survey*—£356 m. as opposed to £392 m. Since the volume imported was very close to the forecast, the discrepancy must be partly explained by a failure of raw material prices to rise to the extent that had been anticipated. The planned increase in the volume of raw material imports was little more than 8 per cent, while the planned increase in value was about 26 per cent, so that the *Survey's* assumption of constant prices does not seem to have been extended to the case of raw materials.[2]

The distribution of imports between areas also differed in certain respects from what had been anticipated; the detailed comparison is set out in Tables 12 and 15. In general, these differences were neither considerable nor disturbing, but the failure to reduce the proportion of imports coming from the dollar area, particularly at a time when exports to the area were falling off, had more serious implications. The *Survey* made no specific prediction concerning dollar imports, and the proportion of imports coming from the Western Hemisphere was actually reduced to a greater extent than had been hoped; but the decline took place entirely in imports from ' other western hemisphere ' countries, while the share of the dollar area actually rose very slightly.

The coincidence of reduced exports and higher imports in the second quarter resulted in a marked deterioration in the current account balance: it seems likely that in the first quarter the United Kingdom actually had a small surplus in its visible as well as its invisible trade, whereas in the second quarter the visible deficit was probably in the region of £50 m.[3] Moreover, this change was partly due to the fall in exports to the dollar area. Both these developments were reflected in a serious increase in the gold and dollar deficit, though other factors of course contributed to this increase. The *Survey* made an estimate of the probable gold and dollar deficit in the first half of the year, but stated that ' it is not possible to make precise forecasts of the other transactions on capital account.'[1] Items II and III in Table 16 of the *Survey* were derived as a residual, after the gold and dollar deficit and net overseas disinvestment had been separately estimated. Comparison of the *Survey* forecasts with the Balance of Payments White Paper[2] shows that the worsening of the situation, and the unforeseen rise in the gold and dollar deficit, was due mainly to the increase in the deficits incurred with the dollar area both by the United Kingdom and by the rest of the sterling area. Since total overseas disinvestment corresponded very closely to the forecast, the total of items II and III, that is, total United Kingdom investment abroad, was greater than had been anticipated.[3]

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[1] For the sake of comparison, the corresponding Board of Trade index number for Class II imports—' raw materials and articles mainly unmanufactured '—were 85 and 96. In a speech at the end of November, Sir Stafford Cripps stated that ' Our imports this year have been rather heavier than we like and will probably result in a considerable overall deficit in the second six months of the year. But against this is the fact that in the six months ending September 30th last our stocks of food and raw materials have gone up by £100 m. worth.' (In addition, the unexpectedly great rise in output would involve greater raw material imports).

[2] The reduction in the margin between payments received and the value of shipments made can hardly explain so great a divergence between the volume and the value forecasts.

[3] The increase in imports probably had a seasonal component, but even when allowance is made for seasonal variation, there is a noticeable deterioration in the visible balance. See our quarterly estimates of balance of payments (BULLETIN, Vol. 11, No. 12, p. 375).

The Third Quarter

Because of the unfavourable tendencies which arose in the second quarter, the *Survey's* analysis of the prospects for the first half of the year proved to have been unduly hopeful. During the third quarter these tendencies persisted, and the situation became steadily worse until the devaluation of the pound. The volume of exports fell slightly, to 142 per cent of the 1938 level, while the volume of imports increased;[4] though the effect of the improvement in the terms of trade, which was caused by the fall in import prices, was sufficiently great to prevent any increase in the adverse balance on merchandise account.[5] The detailed developments are set out in Tables 11–15 It is apparent that most of the main categories of manufactures shared to some extent in the general decline in exports, while on the import side, the chief increases in volume once again occurred in raw materials and ' other imports '. The proportion of imports coming from the dollar area actually rose slightly, and there was a notable increase—which had already become apparent earlier in the year—in imports from O.E.E.C. countries.[6] Since at the same time exports to these countries fell slightly, they had a favourable balance with the United Kingdom on merchandise account. The total current account deficit, however, and also the deficit with the dollar area, appear to have been approximately the same as in the second quarter. In this respect, the situation did not become worse; but the important point is that it failed to improve, for without any improvement it was impossible to maintain the gold and dollar reserves. In the capital account, the gold and dollar deficit was less than in the previous quarter, but had the devaluation occurred a fortnight later the deficit would probably have been at least as great, while the fall in the reserves would certainly have been far greater.[1] The coincidence of dangerously low reserves with steadily increasing demands upon them made devaluation inevitable.

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[1] p. 26. [2] Cf. Table 16.

[3] Overseas investment outside the dollar area, including reductions in sterling balances, may be estimated at £105 m. in the first quarter and £124 m. in the second. The corresponding figures for the gold and dollar deficit were £82m. and 157 m., so that in the first quarter the deficit was lower than had been expected, while in the second it was greater than in any other quarter since the end of 1947.

[4] Again, perhaps, the increase was partly seasonal ; but this was not the main factor.

[5] This statement is based on the evidence afforded by the Board of Trade statistics. In so far as expectations of devaluation caused a postponement of payments, current receipts for exports would have fallen off more than the value of shipments, so that in a sense the position would be less favourable than the statement implies.

[6] The increase was chiefly concentrated in imports from France, Denmark, the Netherlands and Sweden, and was spread over a very wide variety of commodities. The products most conspicuously affected were dairy produce (Denmark and the Netherlands), meat (Denmark), and wood and timber (Sweden).

Diagnosis

In any attempt to analyse the reasons for the *débacle* of mid-1949, four factors at least must be considered: (1) the persistence of inflationary pressure at home; (2) the United States recession; (3) the policies of other members of the sterling area, and changes in the sterling balances; (4) the results of the low rates quoted for sterling in several foreign exchange markets; and (5) the effect of expectations that the pound would be devalued. These factors are not of course unconnected with each other, but it is convenient to treat them separately.

The first does not seem to have played an important part. Inflationary tendencies still exist, and they may actually have been strengthened slightly early in 1949.[2] It can also be argued that an effective policy of disinflation would have forestalled, to some extent at least, the fall in exports and the increase in the adverse balance. But to say that disinflation would have averted the crisis, and perhaps the devaluation also, is not the same thing as saying that the continuance of inflation was immediately responsible for the crisis. It has already been shown that although the balance on current account deteriorated, this deterioration was not very great, and was in itself not sufficiently important to threaten the whole basis of the British economy and the sterling area. The spectacular increase in the gold and dollar reserves which occurred immediately after devaluation, is sufficient evidence that the fall in the reserves was not caused by a failure of the United Kingdom to send enough goods abroad. Moreover, the fall in the volume of exports can be partially—though not entirely—explained by the increasing severity of import restrictions in the Argentine and (after the middle of the year) in the Union of South Africa, and by the American recession. It is perhaps significant that the proportion of United States imports taken from the United Kingdom, which was 4 per cent in 1948, fell to 2.7 per cent in the second quarter of 1949; but in general there appears to be little statistical evidence that British exports to the rest of the world were becoming relatively more expensive and therefore losing their competitive power.[3] So far as the immediate causes of the crisis are concerned, therefore, the role of domestic inflation seems to have been a relatively minor one.[1]

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[1] Sir Stafford Cripps has stated that the drain on the gold and dollar reserves from the end of the second quarter to September 18th was £76 m., while there was an increase in the reserve of £21 m. in the last part of September, after the devaluation.

[2] Cf. Section (f).

[3] The behaviour of wholesale prices in other countries is in this respect very inconclusive evidence, but it is not entirely without significance. In general, prices seem to have fallen only slightly over the first nine months of 1949, while the British export price index has been stable.

The fact that the United Kingdom's share in total U.S. imports declined in the second quarter of 1949 may indicate that British exports were becoming, in relative terms, excessively dear,[2] but the main reason for the fall in dollar exports was certainly the recession; exports to Canada were unaffected.

Merchandise Trade with the United States ($m).

		1948 *Quarterly Average*	1949 *First Quarter*	*Second Quarter*	*Third Quarter*
United Kingdom	Exports ...	70	68	44	52
	Imports ...	159	175	216	155
	Balance ...	—89	—107	—172	—103
Australia	Exports ...	33	31	31	13
	Imports ...	29	44	37	31
	Balance ...	+4	—13	—6	—18
Malaya	Exports ...	68	56	49	43
	Imports ...	21	14	10	8
	Balance ...	+47	+42	+39	+35
India and Pakistan	Exports ...	73	78	73	50
	Imports ...	78	98	104	53
	Balance ...	—5	—20	—31	—3

		1948 *Last Quarter*	1949 *First Quarter*	*Second Quarter*	*Third Quarter*
Other Sterling Area	Exports ...	69	80	62	40
	Imports ...	89	100	109	117
	Balance ...	—20	—20	—47	—77
Total excluding U.K.	Exports ...	243	245	215	146
	Imports ...	217	256	260	209
	Balance ...	+26	—11	—45	—63
Total including U.K.	Exports ...	313	313	259	198
	Imports ...	376	431	476	364
	Balance ...	—63	—118	—217	—166

(Sources: *Survey of Current Business, Economic Bulletin for Europe* and *Monthly Summary of Foreign Commerce of the U.S.*).

Note. 'Other sterling area' does not include South Africa.

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[1] It must be emphasised that this judgment is quite compatible with the view that inflationary pressure within this country may be a fundamental cause of Britain's economic difficulties.

[2] On the other hand, the proportion rose in July and August (to 3.3 per cent), and the fall from the 1948 proportion may be because the income elasticity of demand for imports from the United Kingdom is higher than the average elasticity for imports as a whole. A calculation was made by Mr. Foden and Mr. Roe, of the U.S. marginal propensity to import in the post-war period. This is estimated at 0.04, which may be compared with a pre-war propensity of 0.10. (See also Mr. Hargreaves's article in this issue).

The dollar deficit, not only of the United Kingdom but of the rest of the sterling area, also increased sharply, and this increase was at once reflected in a fall in the gold and dollar reserves. This change is brought out in the statistics of merchandise trade of certain sterling area countries with the United States.

The fall in Malayan exports was due to the reduction, both in price and volume, of imports of rubber into the U.S.; tin exports seem to have been almost unaffected by the recession. So far as other sterling area products are concerned, wool exports to the U.S. fell both in price and in volume; tea exports fell slightly in volume, but without any significant fall in price; while cocoa prices fell very sharply, so that the value of sales fell in spite of an increase in volume. It is clear from the above table, however, that to a certain

Sterling Area Trade with Canada 1948 *and* 1949

Canadian $ mill. f.o.b. Source: Canadian Foreign Trade Statistics.

		Quarterly Av. 1948	*1st qtr.* 1949	*2nd quarter* 1949[1]	*3rd quarter* 1949[1]
United Kingdom	Exports	75[2]	77[2]	87	78
	Imports	179[2]	163[2]	197	190
	Balance	—104[2]	—86[2]	—110	—112
Australia	Exports	7	5	7	6
	Imports	10	8	9	9
	Balance	—3	—3	—2	—3
Malaya	Exports	5	8	3	3
	Imports	2	2	2	2
	Balance	+3	+6	+1	+1
India and Pakistan	Exports	9	6	8	7
	Imports	11	27	25	19
	Balance	—2	—21	—17	—12
Other Sterling Area	Exports	26[2]	18[2]	34	29
	Imports	26[2]	19[2]	25	23
	Balance	—[2]	—1[2]	+9	+6
Total excluding U.K.	Exports	47[2]	37[2]	52	45
	Imports	49[2]	56[2]	61	53
	Balance	—2[2]	—19[2]	—9	—8
Total including U.K.	Exports	122[2]	114[2]	139	123
	Imports	228[2]	219[2]	258	243
	Balance	—106[2]	—105[2]	—119	—120

[1] Adjusted for Newfoundland to correspond with 'Merchandise net' in Table 6, p. 21, of the *Economic Bulletin for Europe*, Vol. I, No. 2.

[2] Canadian trade statistics since March 1949 include Newfoundland. Second quarter totals correspond exactly with E.C.E. figures. Hence these items are unadjusted.

Note.—'Other Sterling Area' does not include South Africa. The low value of exports in the first quarter of 1949 may be partly seasonal.

This table was compiled by Mr. C. R. Ross.

extent the increase in the sterling area's deficit with the U.S. was due to an increase in imports rather than a fall in exports, and this applies particularly to the United Kingdom and to India and Pakistan.[1] Similarly, British imports from Canada rose in the second and third quarters of 1949, to a level above the average for 1948, while Indian imports from Canada have been considerably higher in 1949 than in the previous year. The United States recession, therefore, does not seem to have been the main cause of the decline in the reserves;[2] its importance is that, by making the British situation worse at a time when for other reasons it was already deteriorating, it had the effect of reducing still further the probability that the existing exchange rate could be maintained.

The rise in sterling area imports from the United States was associated with a considerable increase in the total amount of blocked sterling balances which was converted into dollars. India in particular spent more than double her allocation of hard currencies during the period July 1948—June 1949. Similarly, both India and Pakistan reduced their total sterling balances during this period by considerably more than the amounts which had been agreed in negotiation. The connection between the increased releases of convertible sterling and the increase in the sterling area's dollar deficit is obvious. Apart from this, the increase in unrequited exports to sterling area countries seems to have had much the same effect as the continuance of inflationary pressure in the United Kingdom (to which of course it has contributed)—that is, its immediate role in precipitating the crisis was not of great importance, though it was by no means negligible. The same is probably true of capital exports to sterling area countries such as South Africa and Australia. The direct loss of gold and dollars resulting from these does not appear to have been great (though it can be argued that, but for exports of capital, the United Kingdom would have obtained gold as a result of its export surplus to South Africa), but such capital movements have had the effect of increasing unrequited exports,[3] and therefore of maintaining the present distribution between areas of British exports.[4]

It is impossible to estimate the loss of dollars which resulted from the fact that sterling was quoted at a heavy discount in certain important foreign

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[1] The increase in British imports from the U.S. occurred chiefly in foodstuffs (especially wheat and cheese) and raw cotton. During the third quarter the United Kingdom current account deficit with the dollar area became once again greater than the total dollar aid received during the quarter. Since this was written, the Annual Economic Review of the U.S. Council of Economic Advisers has been published. In the section on " international developments " it is stated (p. 57) that " the increase in (the sterling area's) import surplus with the United States was at an annual rate of a little more than 700 million dollars. Nearly half of this represented an increase in sterling area purchases from the United States and about half was accounted for by a decline in the sterling area's sales of goods and services to the United States."

[2] Especially as the indirect effects of the recession, in reducing British exports to third markets, were slight.

[3] Or at least of making possible a level of unrequited exports which could not otherwise have been continued.

[4] It is not clear whether releases from sterling balances follow or precede an improvement in the United Kingdom's balance on current account and other capital transactions with the countries concerned ; probably the connection is reciprocal.

The Sterling Balances—Amounts and Releases (£ millions)

Country	1945	mid-1948	mid-1949	Reductions 1948–9	Agreed Withdrawals 1948–49	Agreed Withdrawals 1949–50	End-Sept. 1949
Group 1 :							
Australia	118	215	360	—145			355
New Zealand	64	77	75	2			70
India	1116	760	630	130	50	100	594
		[220]					
Pakistan		165	140	25	12	17	133
Eire	179	285	280	5			278
Iraq	71	100	85	15	14	3	84
Ceylon	61	53	45	8	3.5		45
Malaya	85	85	85	—			84
Total Group 1	1694	1960	1700	185	...	...	1643
Group 2 and Unidentified	449	448	524	144			508
Total S.A.	2143	2408	2224	329			2151
Total N.S.A.	1134	1144	1009	135			1001
Total	3277	3552	3233	464			3152

Notes.—Official estimates are available of the size of the total balances and those shown in Cmd. 7793 are given above with the exception of the estimate at end of third quarter 1949, for which, although the total has been given in the answer to a Parliamentary question, the split between sterling and non-sterling area countries has not yet been published. No breakdown of the figures among individual creditors has been given since those for June 1945 leaked out in an American Congressional report. The Table is compiled from these original estimates and a variety of sources of which the most important were the Survey by the International Finance Committee of the U.S. Foreign Trade (given in the *Economist*, 3–9–49), and estimates given in the October *Banker*. Group 2 countries whose maximum individual holding is £50 million include British Africa, Hong Kong, Trinidad and other colonies. ' Unidentified ' represents untraceable holdings by individuals in the enumerated countries and is about 50 per cent of the total given as ' Group 2 and unidentified '. The £220 m. in brackets, allocated to India and Pakistan in mid-1948, represents the payment afterwards made to the U.K. in respect of pensions, military disposals, etc.

This table was compiled by Mr. Foden and Mr. C. R. Ross.

exchange markets. However, a certain amount of light is thrown on the problem by some official U.S. statistics (published in *Foreign Trade Statistics Notes*, September and October 1949) of the proportion of exports to the U.S.A. from sterling area countries which was laden in countries other than the country of origin. The proportion for all sterling area countries was 8.9 per cent in April 1949, and 10.2 per cent in May. The actual loss of dollar earnings was very much smaller than this, since only a certain proportion of these shipments (almost certainly well under half) represented attempts to profit from cross-exchange rates; and even for non-sterling area countries the corresponding proportion was 8.8 per cent in April. Shipments of sterling area goods by the Netherlands, the worst offender, were less than $3 m. in April 1949, and the total loss of dollars in all transactions of this kind may reasonably be estimated at $4 m. for that month. On the other hand, as the authors of the *Notes* point out, ' advantage may have been taken of cross-exchange rates and dollar earnings diverted from the country of origin, even in those cases where the tables show the goods laden in the country of origin.' Moreover, the loss may have increased as the summer went on. If we assume that the total loss for April 1949 was $8 m.—that is, that $4 m. were lost as a result of ' third country ' transactions, and a similar amount in ways that are not apparent from the U.S. statistics—and that this figure was 50 per cent greater in the three months preceding devaluation, then the total loss during these three months would have been $36 m. There is no way of checking this result, which is an illustration rather than an estimate; but it seems possible that the importance of these transactions, in weakening still further the international position of the United Kingdom, has sometimes been exaggerated in recent discussions.

The immediate cause of the rapid shrinkage in the gold and dollar reserves was the widespread expectation that the pound would be devalued. The fact that during the third quarter the reserves were falling at the rate of about £1 m. a day up to devaluation, while immediately after devaluation they rose at a rate of almost £2 m. a day, is sufficient indication of this. This expectation could show itself in (*a*) a postponement of orders, with a consequent decline in the volume of goods sent overseas; (*b*) a postponement of payment by foreign importers, in the case of exports which were priced in sterling; and (*c*) a tendency on the part of exporters to postpone handing over their hard currency earnings to the Treasury. There is no indication of the relative importance of these factors.[1] although it has already been suggested that the fall in the volume of exports can be otherwise explained. It must be stressed, however, that the expectations, which proved so fatal, could never have arisen had it not been for the other tendencies which have been discussed. The position of the United Kingdom was so precarious that even a modest increase in the current account deficit with the dollar area meant that the reserves began to fall to a dangerously low level; and once this development had set in, it was inevitable that confidence in the pound should evaporate.

Any assessment of the probable effects of devaluation, and of the long-term dollar problem, lies outside the scope of this discussion. The *Survey* gave a short outline of the Government's policies for gradually reducing the dollar deficit, both by increasing exports to North America and by diverting imports. The first part of the programme fell sadly behind during the first nine months of 1949, but devaluation has radically altered the situation, and it is still far too early to estimate the success of the export drive to the dollar area at the new exchange rate. It is unlikely that, in the first instance at least, devaluation in itself will have much effect on the distribution of British imports between different areas, since imports from the dollar area have already been so reduced that the elasticity of demand for the remainder is likely to be extremely low.[1] The degree of success so far attained in the attempt to divert imports away from the dollar area is hard to estimate. In certain foodstuffs, such as dairy produce and sugar, dollar imports have been replaced to some extent, and the same is true of timber, paper, and similar products. On the other hand, the proportion of petroleum coming from the dollar area seems actually to be increasing slightly, though recent decisions may have the effect of reversing this tendency.

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[1] This could only judged if, in the next White Paper on the balance of payments, separate estimates were to be published for the third and fourth quarters of 1949. It is in any case most important that quarterly estimates should be published for this period, since the experience of the two quarters was very different, and estimates for the whole half-year would therefore have relatively little significance.

(e) Manpower

The diagram shows the achievements of manpower policy in the past three years. The forecast target for each industry is plotted on the vertical axis and the actual achievement along the horizontal, both target and achievement being given as percentages of employment at the end of the previous year. Sectors Y and Z represent complete failure of policy—planned decreases resulting in actual increases, and *vice versa*. The diagonal line would represent perfect achievement, since it is the line where actuality equals forecast. Sectors A and B represent over-fulfilment of plan—increases or decreases greater than planned, while M and N represent partial fulfilment, manpower at the end of the year being less than forecast but having changed in the right direction. In judging success, movements in civil employment should be particularly noted. Because the *Survey* under-estimated the working population and releases from the Forces (except in 1948), and over-estimated unemployment, the total of civil employment has been consistently higher than expected, particularly for 1947 and 1948. Now if civil employment had been correctly forecast, presumably targets would have been higher. The method of reaching targets is apparently to forecast manpower necessary to reach certain production estimates for essential industries. These are the ' targets in the full sense ' as the 1948 *Survey* described them.[2] Then there are some targets implied by material or plant shortages, some targets which are extrapolations, and the remainder are residuals. It might therefore at first sight seem that an increase in the expected civil employment would merely mean an increase in the planned residuals, so that the ' full targets ' would be unchanged. In fact, however, the *Survey* authors would probably be unwilling to see such an increase disappear in unessential work, and would undoubtedly raise the ' full targets '. A reasonable guess is that they would have raised all targets in about equal proportions, keeping the relative distribution the same. So to remove the effect of the ' windfall ' increase in civil employment one should probably reduce all ' actuality ' figures by the *unexpected* percentage increase in civil employment.[3] Graphic-

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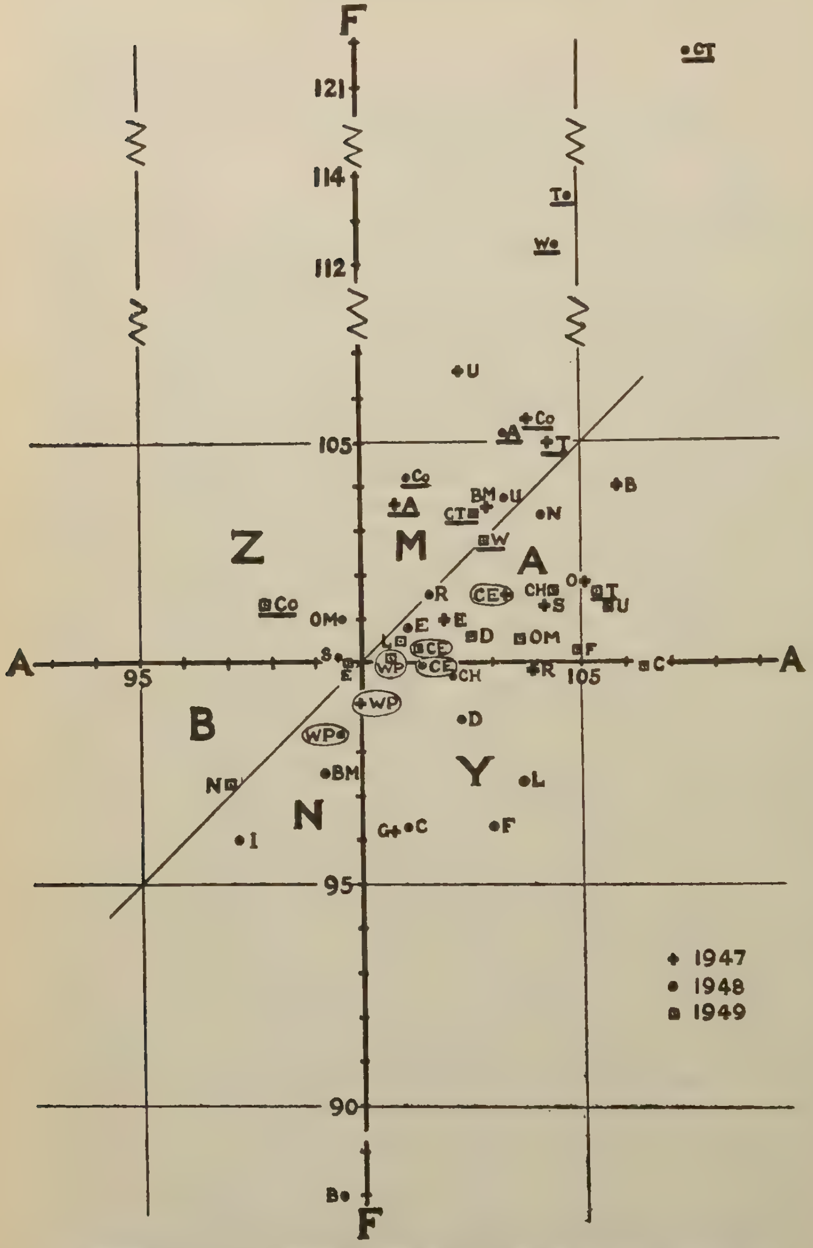
[1] However, devaluation should induce certain sterling area countries to buy British instead of American goods ; and in the case of sterling area countries which have already reduced dollar imports considerably, it makes such a policy considerably less unprofitable. Moreover, devaluation should make it easier to assess the extent to which plans for diverting purchases to non-dollar regions, or developing new alternative sources of supply, are really justified on economic grounds. Finally, even the present restricted list of imports from the United States includes a few items for which a change in relative prices might have some importance.

[2] Para. 186.

[3] It would perhaps be more logical to reduce them *in the proportion of* the unexpected excess, but this would make little difference.

MANPOWER, FORECAST (FF) AND ACTUAL (AA)

(Expressed as percentage of end of previous year)



ABBREVIATIONS :—WP Working Population ; CE Civil Employment ; A Agriculture ; B Building ; BM Building Materials ; C Clothing ; Ch Chemicals ; Co Coal ; CT Cotton ; D Distribution ; E Engineering ; F Food, etc. ; G Government service (1947) ; I Industrial civil service ; L Local Government ; N National Government Civil Service ; OM Other manufacturing ; R Transport ; S Professional and other services (1947 incl. Distribution) ; T Other textiles (1947, all textiles and clothing) ; U Utilities ; W Wool.

ally, therefore, one can draw a more realistic 'line of perfect achievement' for any year parallel to the one shown and through the civil employment point. Any point to the left of where this line cuts the AA axis is shown to have suffered a *relative* fall in employment. In 1948, for example, there was a planned increase of 0.8 per cent in Engineering, and the actual increase was 1.1 per cent, suggesting over-fulfilment.[1] There was however an unexpected rise of 1.4 per cent in civil employment, so that *relatively* employment in this industry fell. If the sectors of the diagram were adjusted accordingly, this industry would now be in the Z sector, because there was a planned *relative* increase but an actual *relative* fall.

Reverting for the moment to the diagram as shown, there were, contrary perhaps to general opinion, only five complete failures of direction in manpower policy (if we ignore marginal cases), one in the Z sector, Coalmining for 1949; and four in the Y sector, Distribution, Local Government, Clothing and Food in 1948. Even if we shift the axis as described above, there is not much change: 'Other Manufacturing' in 1948 becomes a complete failure, but 'Clothing' for 1948 ceases to be one.

This is, however, rather too mechanical a way of looking at manpower developments. We need to consider first which are the really important targets, the 'full targets'. The symbols for coalmining, agriculture and textiles have been underlined to denote their special significance, and it is noticeable that these are clustered mainly in the 'M' sector of partial achievement. The shortfalls for these industries are marked, when we measure them in horizontal distance from the 'line of perfect achievement', the ambitious 1948 Textile targets being particularly far from achievement. (We have had to break the vertical, though unfortunately not the horizontal, scale to show these industries on the diagram.) The degree of under-fulfilment becomes still greater when that line is moved to the right, to allow for the unplanned increase in civil employment. In this case, Building Materials and Textiles for 1947 cease to be 'near misses', and so do Utilities, Transport and Engineering for 1948 and Cotton and Wool for 1949. For a number of other cases, however, the over-fulfilment becomes less serious, notably Building in 1947 and National Government (civil service) in 1948.

In the other sector of partial achievement, 'N', the failure of employment in Building Materials and the industrial civil service to contract seems less serious when the 1948 'surplus' of civil employment is allowed for, and the achieved reduction in 1949 National Government seems rather more praiseworthy. The 1948 target for Building manpower, that odd point at the bottom of the diagram, was revised in the course of the year, and is therefore perhaps not such a serious failure as appears.

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[1] In the case of 1947 and 1949 it is slightly more complicated, for there was some expected increase in civil employment for these years. To be newly on the left-hand side of the 'line of perfect achievement', after it is shifted, means that, though there was an absolute rise greater than expected, the relative rise (fall) is less (more) than expected. Thus a relative fall was expected for Engineering in 1947, and although the manpower target was over-fulfilled the relative fall was greater than expected.

The 1949 Survey's view that ' no large-scale redistribution of labour between industries is required ' is questionable. The service industries (distribution, professions, finance, personal, military and administrative) with their 9 million workers, more than the total of all manufacturing industries,[1] have still too large a share of the nation's manpower, in view of our precarious balance of payments, the slum clearance to be done, the development required for industry and transport, and the enormous unsatisfied real needs for clothing and furniture. The most important of the ' first preference ' industries (coal, cotton and wool) all still have far fewer workers than before the war, and, what is perhaps more relevant, are producing a smaller share of national output.

It will be noticed from the Diagram that 1949 target increases are much smaller than those for earlier years. This may be in part attributable to smaller releases from the Forces (though the civil employment was expected to rise more than it was in 1948). One can hardly, however, resist the conclusion that the satisfaction the *Survey* felt with the existing distribution of labour was based in some degree on the scepticism about the changes that could be produced without a more vigorous manpower policy, and in some degree on a lack of desire for such a policy. Despite the progress made in 1948 towards the ' full targets ' the end-1949 targets for these industries were actually set lower than those for end-1948 had been. This is not obvious because of the change in the scope of the manpower statistics. It can be seen by converting the 1948 targets from ' Old Series ' to ' New Series ' manpower figures as follows :

(Thousands)	(1) *Actual, End*–1948 (*Old Series*)	(2) *Actual, End*–1948 (*New Series*)	(3 *Target, End*–1948 (*Old Series*)	(4) *Estimated Target, End*-1948 (*New Series*) (3)+(2)—(1)	(5) *Target, End*-1949 (*New Series*)
Coal	766	788	790	812	798
Cotton	287	319	325	357	330
Wool	186	214	200	228	220

Column 4 has been found by assuming that the same difference would exist between targets in the two manpower series as between the actual figures for Dec. 1948. This leads if anything to a slight under-estimate of what the 1948 targets would have been on the new basis, because a comparison of June and December 1948 figures for the two series suggests that the higher the figure the bigger the difference, i.e. that proportional rather than absolute differences are more likely to be constant.

A comparison between columns 4 and 5 reveals the extent of contraction of targets in the latest *Survey*, though there can be little doubt that the earlier targets, in column 4, are still more desirable.[2] And in our present economic straits, to ' plan ' an increase in Distribution and ' Professional and Financial

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[1] In addition there is, of course, a substantial section of ' service ' manpower included in the ' Manufacturing Industries '—*e.g.* clerical and professional.

[2] The same point holds for ' Other Textiles ' too, though change in coverage makes comparison more difficult.

Services' greater than the planned increase in civil employment,[1] implying a slight relative shift towards this group, is on the face of it rather odd. The planned increase for Distribution will moreover be over-fulfilled.

The calculations for 1949 for the diagram and Tables 18–19 assume that targets for increases up to end-October are five-sixths of the annual target increase. The figures have however been scaled up to annual rates for comparability with other years. A hypothetical October target could not easily be calculated for transport, agriculture, building and services, since they are subject to rather erratic seasonal influences. They have therefore been omitted from the diagram. The indications are however that all four will return to almost exactly end-1948 levels. Judged by the *Survey's* rather cautious targets, progress in 1949 has in fact been successful, largely owing to an upturn in textile employment in October.[2] It looks as if achievement will be within ½ of 1 per cent of target for half-a-dozen industries.

While first preference industries show a fairly satisfactory and climbing rate of placings, obtaining 12 to 13 per cent of all adult placings, losses in first preference industries have also been high, and on balance it seems that the percentage increase in these industries for the year was less than 2 and just about the national average. The less coercive handling of labour movement in 1949 is shown by the following table for the first 2 years the 1947 Order has operated:

	Oct. 1947– *Mar.* 1948	*Apr.* 1948– *Sept.* 1948	*Oct.* 1948– *Mar.* 1949	*Apr.* 1949– *Sept.* 1949
Directions under Control of Engagement Order (1947)	19	10	0	0
Directions to remain in Coal ...	258	90	67	42*
Directions to remain in Agriculture	104	25	17	10

* A further 24 directions were issued in October 1949 alone to coalminers, indicating a stiffening after the decline in coal employment had set in.

(i) National Income and Expenditure

National Income

The first estimates made for the *Survey* must be those for the total working population and for the anticipated rise in productivity, because these provide the aggregates into which the manpower estimates and the national expenditure components must fit. On these matters the latest *Survey* has as usual under-estimated. The percentage change in working population each year has been as follows:

	1947	1948	1949
Forecast	—0.9	—1.6	+0.1
Actual	0	—0.5	+0.5*

* Estimate based on end-November, and implying an end-year working population of 23.3 million.

This under-estimate of working population has in the past led to an even greater under-estimate of civil employment, due in each case mainly to a failure of unemployment to make its expected appearance. Numbers of unemployed have been (in thousands) :—

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[1] The increases planned were respectively 0.6 and 0.4 per cent, compared with 0.3 per cent for Civil Employment.

[2] Continued in November.

	End–1947	*End*–1948	*End*–1949
Forecast	400	450	350
Actual	300	348	330*

* December 5th.

Since there is some slight seasonal rise in December, we can expect that the result for end-December will show unemployment very near the ' target '.

There was also, for 1947 and 1949, a greater reduction in the Forces than originally expected, the figures being (including those on release leave) :

	End–1947	*End*–1948	*End*–1949
Forecast	1,382†	780	775
Actual	1,241†	826	748*

† Calculated by adding forecast and actual changes to the most recent estimates of end-1946 employment.

* End of November.

These two factors have meant that there was an increase in 1949 of about a quarter of a million in civil employment. On average, therefore, there was about one half of one per cent more employment for the whole of the year than was expected. This has played a far smaller part in the under-estimate of national income than the unexpectedly rapid rise in productivity. The *Survey* assumed that output per man-year would rise by 2½ per cent outside the Government sector. This, however, is hardly compatible with its own forecast of a national income of £10,000 millions ' at end-1948 prices '. The national income for 1948 at current prices was £9,675 millions and on any reasonable allowance for the difference between average 1948 and end-1948 prices, the year's national income at end-year prices must have been nearly £10,000 millions.[1] Our own estimate is that the annual aggregate at end-1948 prices was over £9,900 millions, and that the rate of £10,000 millions at end-1948 prices was passed during the autumn of 1948, several months before the *Survey* was published.[2] Put another way, the forecast rise of 3½ per cent in the national income, ignoring price changes during 1949, was only compatible with the forecast rise in productivity of 2½ per cent outside the Government sector *and* the expected increase in employment if prices had risen by less than 1 per cent between the average and the end of 1948. Even if the wholesale price index (showing the smallest price rise) was used, the national income was therefore rounded downwards, in line with the general caution displayed by the *Survey*.[3]

In fact the price rise during 1948 and the average productivity increase between 1948 and 1949 seem both to have been larger than shown in the *Survey*. Our quarterly estimates of the national income indicate a figure of around £10,300 millions for the whole of 1949 at end-1948 prices, 3 per cent higher than the *Survey*'s. The increase in real income over 1948 seems to have been about 4 per cent.[1] In view of the slight rise in employment outside the government sector, this indicates an overall productivity increase of rather over 3 per cent, mostly attributable to the rise already described of over 5 per cent in the manufacturing sector.

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[1] The difference between average- and end-year was 3 per cent for export prices, 1½ per cent for retail prices, 1 per cent for wholesale prices, and 2½ per cent for wage-rates.

[2] BULLETIN, Vol. 11, No. 12, p. 373.

[3] Doubtless to avoid giving the impression that there was much room for increased expenditure.

Tentative National Income estimates for the whole of 1949 at end-1948 prices are given in Table 80. It looks as if there was an international payments deficit on current account for the whole year,[2] probably meaning also a slight deficit at end-1948 prices, for although the terms of trade turned in our favour in the summer, they were sharply turned back by devaluation.

Consumption

The proportionate division of expenditure implied by the income estimates is given in Table 21. It seems once more that though consumption in money terms has risen, it has risen less than the national income, and thus the proportion of the product devoted to consumption continued to fall. In 1949 there apparently was, however, an increase of about 2 per cent in the real volume of consumer expenditure, slightly more than expected. Table 22 tries to reconstruct the 1948 figures at end-1948 prices, as well as giving preliminary estimates for 1949. It seems that the increase in real consumption was about half due to increased food, with increases also occurring in household goods and clothing. The increase in food was not quite as much as expected, nor was the fall in drink and tobacco, though we must remember that these estimates were made before the budget reduced the beer duty. The increase in the volume of household goods was probably due to the easing of steel and wood bottlenecks. Since this was anticipated in other parts of the *Survey*, and domestic durable output was rising, the forecast of expenditure on household goods was rather cautious. On inspection of individual commodities it seems that the increase was only mild in household textiles, the main rise being in floor coverings (felt base deliveries being nearly double), crockery, domestic refrigerators, washing machines, television sets (but not radios), gas (but not electric) cookers, and furniture—which was altogether over 20 per cent above 1948.

The 1948 fall in food consumption and the mild recovery in 1949 are shown by the following index constructed from Digest data by Mr. Holland, weighting by the expenditure pattern revealed in the National Income White Paper :—

—(1947, Second Quarter=100) *Food Quantity Index*

	I	II	III	IV
1948	94.3	94.9	96.4	100.8
1949	98.7	100.0	101.2	

The details of food consumption in Table 23 confirm that (contrary to 1948) the consumption increases were slightly over-estimated. In judging these shortfalls it must be borne in mind that, in most cases, estimates of consumption for the first half of the ‘ food year ’ (which ends in June) must have been in the hands of the estimators. The proportionate shortfalls in the forecasts for the remainder must therefore have been about twice those implied by the table. The important exception to the shortfalls is for fats, and in recent months the fats supply has turned further upwards, balancing a fall in the consumption of flour, and providing a net increase of 15 calories a day,[1] which carried average energy value back to pre-war levels (also touched in 1944).[2] The serious shortfalls of course are in meat, fish and poultry, despite the increase in livestock production noted above, and in fruit and vegetables. The increases in calories therefore have not meant a much more attractive diet. Since the average beverage consumption for 1948 was only 13.2 lbs. and tea is nearly two-thirds of beverage consumption, the 1948–9 target of 14.6 lbs. implied a sharp rise in the tea ration in the spring of 1949 which failed to materialise.

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[1] Since the above was written the Chancellor in his Review of 1949 has stated that ' the increase in the national income was of the order of 4 per cent.'

[2] See also the Chancellor's Review of 1949, in which it was stated that ' our overall position for 1949 will not be far from that of 1948 '.

Government Expenditure

It is practically impossible to comment on this, because of the absence of an adequate analysis of current expenditure. Supply issues were over £200 millions above 1948, suggesting an increase of about £300 millions in total spending of all sorts. Since transfer payments must be slightly up, this suggests an increase in Government current spending of rather over £200 millions,[3] or to nearly £100 millions above the forecast at end-1948 prices.

Capital Formation

The *Survey* forecast Gross Investment in itemised gross fixed capital formation at £1,755 m. at average-1948 prices, and ‘miscellaneous’ fixed capital formation at £370 m., a total of £2,125 m. Since the forecast for total gross capital formation at end-1948 prices was only £2,330 m., only £200 m. was left for net stockbuilding, compared to £360 m. in 1948, even if average- and end-1948 prices were identical.[4] If we allow for a 2½ per cent change between ‘ average ’ and ‘ end ’, for example, less than £150 m. would have been left for stockbuilding. We estimate, in Table 20, national income was about £300 m. above forecast, and thus resources available about £400 m. above, while public and private current expenditure was only about £100 m. above (in fixed prices). In section (*c*) we estimated that fixed capital formation was about as forecast. So a substantially larger increase in stocks than the forecast £200 m. is implied. This item is of course notoriously hard to estimate, and the unexpected increase in production would be responsible for an unexpected increase in work in progress. In addition stocks of iron and steel, non-ferrous metals, raw cotton, hides, phosphate rock, paper materials and retail clothing are shown to have increased substantially, probably outweighing the fall in stocks of wool, textiles (other cotton), rubber, bricks and tobacco. The increase in home market supplies must also have meant a great increase in retail stocks. Further, Government de-stocking of surplus stores has fallen sharply. Apart from the increased work in progress, and possibly some stockbuilding in anticipation of devaluation, none of these other developments was unexpected, and the implied forecast of net stockbuilding at less than £200 m. seems rather unrealistic. Even allowing for the error in estimating a residual, it seems that stock-building must be considered a big feature of the economic story of 1949.

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[1] Dr. Summerskill, *Hansard*, 15–12–49, Col. 2982.

[2] In view of the higher proportion of young children, this implies that weighted by a constant age distribution it was above pre-war. Unless we remember children, the current national average of about 3,000 calories contrasts oddly with the average prison diet of 3,192 calories announced by Mr. Chuter Ede. (*Hanarsd*, 17—11–49).

[3] This is a rapid survey of the main items in a table on p. 68 of the BULLETIN, Vol. 11, Nos. 2–3.

[4] Despite the large overseas petroleum investment programme for 1949 (which is included on the rather odd official definition as *domestic* capital formation *other than fixed capital*), and the likely fall in sales of Government surplus stores.

INFLATION

The post-war price inflation in Britain slowed down during 1949. Import prices actually turned downward in the summer, falling 6 per cent between April and September, though this was more than offset by a leap of 10 points immediately after devaluation. Export prices were practically stationary, increases for metal goods being balanced by falls for textiles and other manufactures. Wholesale prices increased, but this was mainly due to the increases in food and tobacco, at least until devaluation, when all sections turned upwards. Retail prices moved up in April, after the reduction in food subsidies, but have otherwise remained fairly steady and have in fact only increased 7 per cent since February 1948, when the White Paper on Personal Incomes was published, as against 6 points in the 8 months prior to publication. This rise can very largely be explained by the clothing price rise of over 10 per cent in 1948, and the food price rise of 10 per cent in 1949. Agricultural prices, seasonally corrected,[1] have moved as follows:—

(1947=100)	1948	1949							
	Ave.	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*
All Products	104	104	104	105	109	109	109	109	110
Cereals	108	109	110	112	111	111	112	114	112

The total index turned sharply up in the spring, and in view of the stability of cereal prices this must have been due to the increases in livestock prices after the annual review. Retail prices for sectors other than food showed slight price falls in 1949—clothing and household durables on account of the reduction in utility prices (whose effect is perhaps exaggerated by the index weighting system), and drink because of the tax reduction. The retail price changes that occurred can in fact be immediately traced to administrative actions, and apart from these actions prices remained on a level plateau. Retail prices for the year increased by a percentage little more than the percentage yield on savings certificates, and thus the real value of a savings certificate also for the first time since the war did not fall substantially during the year.

Wage-rates only increased about 2 per cent in the year, or 5 per cent in the

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[1] By Mr. Pearson. These only effect retail food prices, of course, in so far as they are not offset by subsidy changes.

21 months since the White Paper on Personal Incomes, as against 4 per cent in the 8 months previous to the White Paper. The successive quarterly increases have been as follows since the inception of the new index :—

+1, +2, +2, +1, +1, +1, +1, +1, 0, 0

The index in fact moved only 1 point in the period January–November 1949 despite a 3-point rise in the cost of living. Real wage-rates therefore fell in 1949, after being stable for 2 years. We only have information on earnings up to April 1949 in view of the 5 months' delay before the results of earnings enquiries are published.[1] Over the 6-month period October 1948 to April 1949, average earnings rose 2s., or just under 2 per cent, compared to a rise of 0.2 per cent in the retail prices index over the same period, suggesting an increase in average real earnings (particularly for women). In view of the slowing up of the rate of increase of the wage-rate index, and the increase in the retail prices index of 3½ per cent in the following six months, it is unlikely that 1949 saw much rise in average real earnings.

With the change of industrial classification it is no longer possible to analyse the increases in earnings in the manner developed by Sir Arthur Bowley and Mr. Nicholson. The latest enquiry does not even tell us what the change in earnings would have been if the industrial distribution of labour had remained unchanged since October 1948, when the new manpower classification was first introduced. This is the vital piece of information necessary to show the influence of changes in industrial distribution. It is most important for economic analysis that this calculation should be provided by the Ministry of Labour with each current enquiry, and that the calculation should be made also for April 1948 to October 1948, to permit a link with the enquiries using the former manpower classification.

We can make only a tentative analysis of this increase in real wages in industry. Such calculations as can be made suggest that changes in the distribution of labour had little effect between the enquiries in October 1948 and April 1949.[2] The sex ratio and average hours worked were practically unchanged. There was possibly some slight diminution in the proportion of juveniles, and the higher output must have raised earnings of those paid by results; but obviously the biggest influence must have been the increase in rates of pay. The wage-rate index for the industries covered by the enquiry was 1 point higher in April than in October 1948, but this may mean any positive increase up to 2, because of the practice of quoting the index only to three figures. Interpolation in the three-figure wage-rate index for *all* industries suggests that the increase was in fact more than 1 point, possibly about 1½.[3]

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[1] One wonders whether in view of the acute interest in wage problems, at lease preliminary indices could not be released earlier.

[2] Mr. Hewitt found that there was a positive rank correlation coefficient between changes in labour force and *changes* in earnings ($\rho = +.49$, $\sigma_\rho = .17$) indicating that increases in earnings were associated with labour increases. On the other hand he found a negative rank correlation between changes in labour force and *level* of earnings ($\rho = -.40$).

[3] The index for October was the first of three months with 107, suggesting a number in the range of 106.5 to 107.0, while the figure for April was the fourth of five consecutive

Lastly currency (held by the public) and current accounts ceased to decline, and each were in the autumn rather over 1 per cent above 1948. This was, however, more than accounted for by the increase in consumption (see below).

So much for the *symptoms* of inflation. What is of greater fundamental importance is the amount of inflationary pressure. Its measurement is of course a matter of considerable statistical difficulty and the whole question is so complex that we cannot expect any single indicator to provide the whole truth. Some indicators that help us are the following :—

(i) *The level of unemployment*

The number of registered unemployed flared up slightly in January 1949, when it was at its highest level since the fuel crisis of 1947. In the last six months of 1948 it had climbed 100 thousand, and then fell by more than this to reach a total (G.B.) under 250 thousand and lower than any 1948 total. This has been interpreted as indicating a fall and then a rise in inflationary pressure. However the connection is slight. Inflationary pressure tends to limit unemployment, almost irrespective of the amount of pressure. Moreover, this was mainly a seasonal movement, similar to that of previous years, and the remainder of the fluctuation can be largely explained by structural changes. 1948 saw a considerable fall in ex-service men and women who had not taken up employment, and actually the total 'not in employment' fell during the second half. In 1949 the reduction in unemployment may have been due partly to adjustment of the labour force to the post-war pattern, and partly to the increase of housebuilding work and steel supplies.[1] In the second half of the year the number on the register rose rapidly, faster than in previous autumns.[2] This is harder to explain, being spread over all industries, and would seem to indicate some reduction in inflationary pressure.

The ratio of unfilled vacancies to unemployment is also often cited as evidence. It increased from 1.0 in the beginning of the year to 1.8 in the summer, then falling to 1.2 in October, again largely a seasonal matter. There has been some slight tendency for unfilled vacancies to be lower than last year. These figures are, however, of very little significance, since the notification of a vacancy must depend on factors such as the employer's hopes of its being filled, and there may be some padding in requirements notified, employers hoping to obtain a proportion thereof.[3] Hence a fall in the ratio may indicate employers' despair of obtaining requirements (i.e. stronger inflationary pressure) or less padding of requirements (i.e. less inflationary pressure) or a

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108's, suggesting a number between 108.0 and 108.4. The practice of quoting only three figures virtually deprives us of information on short-term movements in wages, now that the increase has slowed down and the index jumps a point only two or thee times a year. Even the reintroduction of the half-point moves shown by the former wage index would be a great help. Since the present index is such a low three-figure number an increase in the index represents 1 per cent rise in wage-rates, while an increase of half-point in the old index indicated an increase of about one quarter of 1 per cent.

[1] The fall in unemployment was particularly sharp in the building and metal industries.

[2] By 80 thousand from July to November, compared to 46 thousand in 1948.

[3] In the same way that defence departments inflated requirements in the war.

real weakening of demand for labour. Examination of the Technical and Scientific Register and the Appointments Register does not suggest any substantial change in the demand for staff.

(ii) *The Consumption-Cash Ratio*

The E.C.E. uses ' real value of cash holdings ' as an indicator of suppressed inflation, cash being defined so as to include current accounts.[1] On this measure inflationary pressure is shown to have increased if prices have not risen as rapidly as the volume of money. Increased cash associated only with increased quantities of goods bought would, however, not necessarily mean greater suppressed inflation. It would seem more useful to use an alternative measure, taking into account both price and volume movements, namely the number of weeks' consumption represented by cash holdings.[2] This has moved as follows :[3]

1938	1945	1946	1947	1948
20	38	36	35	33

1948				1949		
I	II	III	IV	I	II	III
34	33	32	33	35	33	31

It seems that the 1949 average was fractionally below that for 1948. The higher level than pre-war should not be considered an indication of the amount of inflationary pressure, for there has almost certainly been a lasting increase in liquidity preference.[4] Assuming, however, no change in liquidity preference in the short period, we have evidence that in 1948 the downward movement was checked and reversed, the figure for early 1949 being above that for early 1948, but in the summer of 1949 the weight of money overhanging the market declined further.

It is in fact notewothy that the increased consumption this summer did not call forth much increased cash. Since the amount in national savings (certificates, P.O.S.B. and T.S.B.) was in the autumn about 2 per cent higher than in 1948, the value of the remaining (and therefore the total of) liquid assets must also have fallen since 1948 as a multiple of weekly consumption.

(iii) *The pattern of consumption*

One can infer a good deal about inflationary pressure from the proportion of consumers' expenditure devoted to different purposes. When pressure is strong, spending on drink, tobacco and entertainments expands because the purchasing power is more than adequate for the restricted supply of necessary goods. Two indicators suggest themselves here. One is the percentage of expenditure devoted to necessities.[1] This has moved as follows :

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[1] Vide *Survey of the Economic Situation and Prospects of Europe*, p. 78 ; and *Economic Survey of Europe in* 1948, p. 31. Mr. Carter (*L.C.E.S. Bulletin*, 1946) proposed a similar measure but with a wider definition of ' cash '.

[2] E.C.E. may, of course, have felt that the lack of consumption information for many countries did not justify them allowing for volume of sales. There would also be a case for using a ratio of national income to cash. Mr. Stern in the *Banker's Magazine* (1946) used in effect consumption and investment in the denominator, another defensible variant.

[3] Dividing the total of ' estimated circulation with the public ' and the deposits in the current accounts of the 11 London clearing banks by consumption from Section XV of the *Digest*. Since neither numerator or denominator is seasonally corrected, the multiple will have most of the seasonal influence removed.

[4] *e.g.*, because of the higher tax rates.

				1948				1949		
1938	1946	1947	1948	I	II	III	IV	I	II	III
63	53	55	56	56	56	57	57	58	58	58

(The quarterly estimates are seasonally corrected).

The other indicator is a measure of the divergence of expenditure from the pre-war pattern. This was calculated by taking the percentage devoted to each of the eight main commodity groups in 1938 away from the corresponding percentage in a post-war period and summing without regard to sign. The sums so obtained were :—

			1948				1949		
1946	1947	1948	I	II	III	IV	I	II	III
20	17	17	16	18	18	17	17	17	16

(The quarterly estimates are seasonally corrected).

Here again we cannot easily draw much in the way of conclusions about the amount of inflationary pressure in the economy, because almost certainly a different pattern of expenditure, doubtless reflecting some of the habits formed in the 1940's, will be revealed as the post-war norm. Both measures indicate some long-run approach toward the pre-war pattern, but the latter suggests the trend was reversed early in 1948, and then subsequently resumed in 1949.

If we compare the patterns in 1938, 1946 and 1949, we can see how great the readjustment in the post-war years has been, particularly in the proportion spent on food :

	Percentage Distribution of Consumer Expenditure		
	1938*	1946	1949 *Third Quarter*‡
Food	30	26	29½
Drink...	6½	10	8½
Tobacco	4	9	9½
Rent	11½	8	7½
Fuel and Light	4½	4½	4
Household Goods	6½	5½	6½
Clothing	10½	9	10½
Other	26	28	24
	100	100	100

* Items do not add to total because of rounding.
‡ Seasonally corrected.

It can be seen that except for rent, drink and tobacco, the pattern in mid-1949 was very close to that of 1938. Both drink and tobacco have of course been greatly affected by indirect taxes.[2] The size of the divergence measure above has been greatly affected by this switch from rent, which is moreover a 'price' rather than a 'real' switch. Apart from these three groups, the divergence measure fell from 8½ in 1946 to 3 in mid-1949 a slight positive indication that the level of inflationary pressure was not very great in mid-1949.

[1] Food, Rent, Fuel, Clothing and Household. We cannot extricate the more useful sections of 'other' spending because of the lack of subdivision in quarterly estimates.

[2] One would only expect the consumption pattern to be unaffected by indirect taxes if elasticity of demand were unity.

(iv) *The Savings Ratio*

From this we can perhaps hope to learn more than from the other measures. Since we are going to obtain from it an economic explanation of the past two years quite contrary to that often advanced, we shall set out the theoretical basis for its use.

The assumption implied in the measure is that the public's desire to save does not change much in the short period. If this assumption is true, then as a corollary short period changes in savings out of personal income, during a period of inflationary pressure, mainly reflect changes in the supply of goods or in personal income. We can make this more specific by assuming that the proportion of total post-tax personal income the public desires to save does not change greatly in the short period, and thus that changes in the proportion of income which is in fact saved (the savings ratio) reflect primarily changes in forced saving—that is, saving made against the public's desire, because of a shortage of consumer goods. Saving which is not voluntary represents expenditure waiting to be made, and is associated with excessive growth of industries supplying inessential services, distortion of resource allocation, queues, runs on material stocks, and so forth. The fall in the saving ratio since the end of the war is thus taken to indicate a reduction in the saving forced by a shortage of goods, i.e. lower inflationary pressure, rather than a fall in thriftiness.[1]

This is a narrow, even if not a precise, definition of ' inflationary pressure ', and its relation to price changes is rather indirect. If the value of consumers' goods increases, whether because of price or quantity rises, without the same proportionate rise in incomes, the savings ratio falls and reduced inflationary pressure is indicated—even though prices may be rising rapidly. Although this may seem rather paradoxical, the distorting pressure of incomes on the economic structure has in fact, *ceteris paribus*, been reduced.[2] The paradox derives from a confusion shared by most commentators, especially in ' city ' columns, between the causes and effects of inflationary pressure.

Thus last summer's rise in consumer expenditure, and the associated cashing of small savings, has widely been described as ' inflationary ', though it is more reasonable to suppose that it occurred essentially because more goods came into the home market. This extra supply was made possible by higher output and lower exports. The sharp rise in retail business represented therefore rather the working out of a desire to spend already present than a great increase in this desire. A similar confusion has existed over the ' Budget Surplus '. Since this obviously has a great disinflationary role, there has been a tendency to consider that its appearance in 1948 meant the end of ' inflation', and that its reduction last summer meant renewed ' inflation '. Actually the exchequer surplus, as traditionally measured, is only part of the surplus on current account of the Central Government, and this is only part of the consolidated surplus on current account of the public authorities,[1] which is itself only one of the factors affecting the balance between consumers' incomes and the supply of consumers' goods, the others being the balance of international payments and the excess of capital investment over companies' additions to reserves. Since, as we shall show, movements in these other factors seem to have been of greater importance than (and in the opposite direction to) changes in the public authorities' current account surplus, attention solely to the exchequer surplus has led to very misleading conclusions.

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[1] This explanation is only true during a period of inflation. If the economy is not fully employed, changes in the savings ratio reflect mainly changes in thriftiness and are causal factors, not indicators. Thus in the U.S.A. the rise in the savings ratio from about 6½% to over 7% at the beginning of 1949, meant that for a given level of ' offsets ' less income, and thus employment, would be generated.

[2] Actually in practice price rises may cause greater inequality of income and greater overall thriftiness, reducing inflationary pressure further.

There are two points of definition to consider. Is the proportion of income that would voluntarily be saved likely to be more stable when we measure income ' net ' or ' gross ' of death duties ? And when income is measured after deduction of tax *payments* or after deduction of tax *liabilities* ? On the first point, it seems plausible to assume that death duties are not mentally debited against current accounts, and consequently that people consider available (for consumption) income before making any such deduction. The same applies in lesser degree to the Special Contribution, and neither form of capital tax is deducted from personal income in these calculations.[2] On the second point, the question is whether taxpayers who are wholly or partly exempt from P.A.Y.E. tend to make a conscious deduction of tax *liabilities* when arranging their outlay. If they do, income net of liabilities will yield a more stable proportion of voluntary savings. Since some taxpayers do allow for *liabilities*, possibly paying sums to meet them into a special account as they are incurred, while others do not even know what their *liabilities* are, neither definition of income is wholly satisfactory. In practice it makes very little difference in recent years, and we shall measure income net of tax *liabilities*.

The percentage of post-tax income so defined, which has not been spent, has moved as follows :

				1948				1949		
1938	1946	1947	1948	I	II	III	IV	I	II	III
5	11	4	3	2	3	3	4	5	3	3

(Quarterly estimates are seasonally corrected).

The quarterly ratios are taken from our national income estimates,[3] and are therefore subject to a wider margin of error than the annual estimates. The confidence that can be put in the quarterly figures is a matter for personal judgment. To assist the reader to make this judgment we should point out that estimates of changes in personal disposable income are based mainly on changes in the wage-bill, which can be estimated with some confidence, while the consumption estimates are based closely on official quarterly estimates.[1] Our own view is that the *shape* of the movement in the savings ratio over 1948 and 1949 can be trusted, and this is the important point here.

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[1] As shewn in the National Income White Paper.

[2] A corollary of this view is that these taxes contribute little to reducing inflationary pressure and should be excluded from the budget surplus on current account, at least for economic purposes.

[3] BULLETIN, Vol. 11, No. 12.

Assuming movements in the propensity to save were small compared to movements in the proportion of income actually saved, the above figures indicate that inflationary pressure fell sharply from 1946 to the beginning of 1948. It cannot be concluded that, because a smaller proportion of income was being saved early in 1948 than 1938, inflationary pressure was less. We cannot assume constancy of the propensity to save over such a long and eventful period. Redistribution of income and the still unsatisfied desire to replenish personal holdings of durables were alone enough to account for a considerable fall in the propensity to save, which must have been negative over the post-war period. On the other hand in 1938 savings were lower than they would have been if full employment had existed. Still on balance it would seem beyond question that if all the desired goods had been available, which is the relevant hypothesis, spending would have exceeded personal income in any quarter in 1948.

Though we know nothing of short-period movements in the desire to save, we do not need to assume it *constant.* The relevant point is that despite the replenishment of consumer durables, it is unlikely to have risen as fast as actual savings did in the year from early 1948 to early 1949—i.e. by about three-hundredths of personal income. Thus a slight rise in inflationary pressure throughout this year is indicated, as it was also by the consumption-cash ratio, and the increased divergence from a 'normal' pattern of consumer spending.

What was happening in 1948 was that disposable income was increasing faster than the value of consumers' goods available. Virtually the whole of the increases in output, which generated increases in income, was going into exports, capital investment and (after the middle of the year) Government expenditure. So despite the large budget surplus, which was probably still rising if one abstracts from seasonal elements, the gap between savings which would voluntarily have been made and savings which actually were achieved was widening. It is true that if there had been no budget surplus over this period, inflationary pressure would have increased rapidly, at the expense of the export drive. The Central Government surplus has perhaps contributed less on an economist's definition, however, than might seem from the conventional accounts. Mr. Dehn prepared the following approximate estimates for the Central Government budget surplus for each quarter of the financial year on the three classifications currently most discussed, the conventional, the official 'alternative' form, and the one suggested in Mr. Hicks's 'Budgetary Reform',[2] They are compared with that taken from the National Income White Paper.

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[1] Errors due to the production indices are taken out when deducting the estimate of undistributed profits.

[2] p. 92.

(£ million)

Quarterly Budget Surplus

	1948				1949			
	I	II	III	IV	I	II	III	IV
Conventional ...	+420	+179	+74	+ 9	+570	0	—18	—16
'Alternative' ...	+373	+160	+2	—10	+532	—19	—31	—21
Hicksian ...	+263	+105	—46	—64	+469	—131	—76	—77

(£ million)

Annual Budget Surplus

	1948	1949	*Financial Year* 1948–9
Conventional	+682	+536	+832
'Alternative'	+525	+461	+684
Hicksian	+258	+185	+464
National Income White Paper	+304	—	—

So far we have implicitly assumed consumption is the residual form of national expenditure, While we believe this to have been broadly true, it is an assumption we must now partially relax. The increased inflationary pressure early in 1949 may have played some part in the falling off of exports noted in the second quarter. It was certainly unfortunate that it coincided with the emergence of the recession in the United States. We believe, however, that its incidence was only marginal. The evidence surveyed in section (*d*) suggests that the main causes of the fall in exports were external, and it is noteworthy that exports did not greatly recover when inflationary pressure was later reduced, as might be expected by those advancing this explanation.[1] This pressure does check the expansion of certain exports, but that is a separate question.

We cannot reconstruct in detail the *Survey's* tables of public finance or savings and investment. It does seem, however, that while current expenditure has increased £100 m. or so more than expected, nearly all the other items were much the same. The 'Hicksian' surplus for 1949, the most relevant of these shewn above, suggests a fall of the order of £100 m. for the central government surplus on current account. Consequently the current account surplus for the year may have been about £300–400 m. for all public authorities, not a great deal less than anticipated. Table 25 of the *Survey* apparently erred in allowing only £35 m. for increased net undistributed profits, out of an expected increase of £325 m. in the national income. Since this is much less than half what one might have expected in view of dividend limitation, it was tantamount to an assumption that dividend limitation was going to be abandoned, though this under-estimate may have been made to avoid the embarrassment to the savings movement of forecasting a fall in the residual, personal savings.

As 1949 proceeded the central government conventional surplus, and also probably the surplus of all public authorities on current account, fell off, while capital investment continued to increase. However the change from an export surplus to an import surplus, together with increased undistributed profits, appears to have outweighed this inflationary influence—judging from the increase in unemployment, the fall in the consumption-cash ratio, the change in pattern of consumption and the fall in personal savings. The case for considering the fall in the savings ratio in 1949 evidence of disinflation is particularly strong, apart from the other indicators, because one would have expected the desire to save if anything to have increased, as shortages were made good, and also as real consumption rose.

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[1] Except of course that those who want to ascribe the greater ' dollar gap ' to domestic inflation have generally found reasons of some sort for believing inflationary pressure increased in mid-1949.

We should point out that our interpretation of this period differs from that of Mr. Carter and Mr. Tress,[1] among others, who believe that there is, or at least recently was, an ' excess of purchasing power which has grown up since late 1948 '. We see no evidence for the ' equilibrium ' they mention having been achieved in late 1948, and we would find the suggested increase in pressure hard to reconcile with the rise of £310 m. in consumption (at annual rates) between the second quarters of 1948 and 1949, and £370 m. between the third quarters,[2] in view of the dividend limitation, the slowing of wage increases, and the high marginal incidence of direct taxation.

The level of £200 m. per annum personal savings reached early in 1948 and again this summer implies zero net personal saving, since death duties plus the special contribution are about this size.[3] It is not easy to discover who is dis-saving, but we know as indicated above that net small savings have been slightly positive, when we allow for accrual of interest on saving certificates. This information, while not conclusive, is hardly compatible with the hypothesis that those with under £500 per annum dis-saved in aggregate, especially if we also take into consideration increased cash holdings and continued saving through industrial assurance. The real value of the wage-bill (before tax) increased by some 5 per cent in the previous year, which was quite adequate to finance the working-class share of the increased consumption. On the other hand property income and salaries have remained stable. There is thus a *prima facie* case for believing that the fall of savings in 1949 was due to dis-saving on aggregate by the higher income groups. Such dis-saving is one of the major forces supporting the inflationary demand for consumers' goods.

The question is how long this expansion of consumption will continue. In judging this we must remember that small savings cashable on demand (i.e. excluding defence bonds) total £5,000 million,[4] or rather over 6 months' consumption, apart from £4,000 million in current bank accounts. Dis-saving of two or three hundred million pounds per annum can easily be maintained for several years out of this.

On the other hand we must remember that disinflationary forces are now very powerful. The marginal share of profits in the national income has been about a half (much the same as Mr. Kaldor's estimate for pre-war), of which the greater part has been absorbed in reserves. With the slowing of wage-rate increases, the share of increase in the national income accruing to undistributed profits is probably about .35, and of the remainder nearly a third, say about .3, is taken in taxes.[1] So that every £100 increase in the value of production (whether in price or quantity) generates less than £50 increase in personal income. Now that exports are no longer rising so sharply, however, by far the greater part of that £100 worth of goods is free to go into the consumers' market. The economy is now in effect a disinflationary machine, increasing the value of consumers' goods faster than it increases the flow of spendable income. An increase of £400 million p.a. in the national income after the summer of 1949, such as we might expect in a current twelve-month, would generate only about £150–£200 million more personal spendable income (taxes remaining unchanged). The necessary increase in export surplus would be something under £200 m.[2] and if as a result of the Government economies current public expenditure ceases to rise, while capital investment (including stockbuilding) falls by nearly the order of magnitude of the increased export surplus, we shall have contributed over £200 m. to a reduction in inflationary pressure, making personal saving, even before deduction of death duties, negative. We anticipate a greater reduction than do Mr. Carter and Mr. Tress in their paper, mainly because they imply a much lower marginal incidence of taxation plus marginal propensity to save.

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[1] *L.C.E.S. Bulletin*, Vol. XXVII, No. IV.

[2] *Digest*, Section XV.

[3] In view of the fall of the market value of bonds and shares and the easing of house prices, it also implies that the personal wealth of the country at market valuation fell over the year—for the first time since 1938.

[4] In addition of course the attempt to establish an interest rate lower than is acceptable to bond-holders will involve creation of extra cash.

It is anybody's guess how much of the great total of liquid assets will be used to buy consumer goods, but the slight indications available, such as the approach to the pre-war pattern of consumption in 1949, suggest that we are now nearing the end of inflationary pressure. Some of these liquid reserves may be held off until cars become more readily available and thus only ' overhang ' the car industry. If this analysis is correct 1950 should see the virtual end of inflationary pressure at home.

It is probable that, in this sense at least, the government cuts in current expenditure and in the capital programme will prove to have been ' about right '. But this relatively optimistic conclusion needs several qualifications. First, the increase in output which we have assumed, though it is not unreasonably large, would not be attained if there were any serious hold-ups in production—because of widespread strikes, for instance.

Secondly, the argument assumes that high taxes and dividend limitation, an essential part of the disinflationary machine, will continue.[3] Finally, i may be argued that the degree of disinflation which we are likely to achieve without further positive action will be inadequate, in view of the extremely precarious equilibrium in our dollar balance. The improvement in the gold and dollar reserves during the fourth quarter of last year has been most encouraging, but the reserves are still so low that we cannot afford to take chances. The amount of E.R.P. aid which we can hope to receive will be considerably lower in 1950–51, we shall face increasing competition from our ex-enemies, and we cannot expect that the level of business activity in the U.S. will remain indefinitely at its present height. For many reasons a depression on the scale of the early 1930's is unlikely to develop; but it would be unwise to exclude the possibility of a recession, more serious and prolonged than that of 1949, at some stage during the next two years. It may never happen; but if it does, then in the present state of the reserves our position is even in the short run extremely vulnerable.

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[1] Cf. BULLETIN, Vol. 11, No. 12, p. 379.

[2] We must bear in mind in these calculations that if incomes remain stable while prices rise, the consequent fall in real incomes must yield some import economies. If they do not then there is no sharp inflationary reduction in the import surplus. The Government programme *and* the fall in real incomes doubly offset devaluation as an inflationary force. To avoid these complications the essential thing to look at is the overall export surplus, and presumably we do not envisage this as more than £100 m. this year, or £200 m. more ' export surplus ' than in 1949.

[3] While wage stability is important in avoiding price increases, with the consequent internal stresses and external dangers, it does not have much significance for the ratio between consumption and personal incomes, if wage rises are associated with price rises. Wage increases at the expense of undistributed profits would have of course (whatever their other justification) the same sort of inflationary influence as increased dividends.

If we are to safeguard our position, and to build up our reserves to a more adequate level, the attractive power of the home market must be diminished. We suggest that this will automatically happen, but should it appear by the middle of the year that it is not happening enough, then the case for further economies in Government spending or in investment will be very strong. These are not the only solutions open. The burden on this country would be eased if we persuaded the holders of sterling balances to accept a lower rate of release, and if some control were established over capital exports to other sterling area countries. In this way the size of the export surplus we shall need would be kept to a minimum. Monetary measures, such as raising the long-term rate of interest and stricter control over bank advances, might possibly contribute to a solution. Finally, housing, finance and material allocations could all in any case be used discriminatorily to back the drive for dollar exports. But even on an optimistic view, these expedients in themselves would not be likely to be collectively an adequate substitute for domestic disinflation. The need for such a policy would be the greater because the only high cards (devaluation and imports cuts) have already been played. We should stress however that we have been considering here only the immediate *economic* aspects of the question. Even if the economic case for a further instalment of disinflation should prove to be strong, there would also be strong arguments, on social, political and long-run economic grounds, against a policy which would certainly involve some increase in unemployment. The unemployment might only be of a temporary and frictional nature, and the increase might not be very great; but one cannot be sure of this. It is not the business of the economist as such to suggest which of these two major risks the next Government should incur.

SUMMARY: THE FUNCTION OF SURVEYS

If one looks at the *Survey* as a whole, the major weakness was the absence of any clear distinction between different types of forecast: those that are 'targets in the full sense'; those that represent desirable developments; those that are the implications of other forecasts; and those that merely state what is considered likely to happen. In several tables, throughout the *Survey*, figures representing all four varieties are placed in close proximity. In this respect, the 1947 *Survey* was more consistent. It kept mainly to a narrow group of 'bottleneck' industries on which the Government was concentrating much of its policy, and most of its forecasts were therefore statements of intention. The two subsequent *Surveys*, however, have increased the scope of their predictions, while at the same time certain of the 'bottlenecks' have been eliminated, and the extent of direct Government control has been correspondingly reduced. The 1948 *Survey* seemed to envisage a wide use of the powers of directing labour, and its detailed forecasts for the whole economy had a certain function, in that they formed a guide for the policy of redistributing manpower. During 1948 the belief in the efficacy of direct control diminished, so that the corresponding predictions of the 1949 *Survey* had no such function, and gave perhaps a rather misleading impression of the scope of direct Government planning.

Unless Government intervention is to increase, the function of the *Survey* is obviously changed. A clear distinction should therefore be made between the different sorts of 'target'. Where most of the 'targets' are merely statements of what is anticipated, and the probable trends during the year are small compared to fluctuations caused by changes in demand or technique, the *Survey* tables will lose most of their interest and significance—manpower is an example. Nevertheless, the *Survey* will still serve the purposes of informing the public (and the Government) of the state of the economy, of analysing the possibilities and prospects for the year, and of setting out the Government's general economic policy. Even in an economy subject to less Government planning, *Survey* will still have an important role.

P. D. HENDERSON,[1]
DUDLEY SEERS.

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[1] Our division of responsibility was as follows: Henderson prepared section (d) on the balance of payments, and Seers the remainder, though both authors share, of course, responsibility for views expressed.

APPENDIX I

MEMBERS OF THE UNIVERSITY RESEARCH CLASS IN ECONOMIC STATISTICS. MICHAELMAS TERM, 1949

Balance of Payments (Interpretative) Group

Adviser : J. A. Hargreaves (Fellow, Magd.); *Convenors :* C. R. Ross (Hert.) and R. I. Foden (St. P. H.); *Graduate Member :* T. C. Gardner (Queen's); *Undergraduate Members :* Miss A. Fleming (St. Anne's), P F. G. Roe (Magd.), D. S. Shwayder (Ch. Ch.).

Balance of Payments (Factual) Group

Conv. : F. J. Bayliss (Hert.); *G.M. :* F. A. Long (St. Cath.'s); *U.M.s :* M. Day (Hert.), V. Fais (Magd.), P. M. Field (Ball.), L. W. Frearson (Ball.), F. Jones (St. Cath.'s).

Production and Manpower Group

Adviser : J. R. Sargent (Lecturer, Ch. Ch.); *Conv.:* D. V. Donnison (Magd.); *G.M.s:* C. E. A. Noah (St. P. H.), Miss J. Moore (L.M.H.), Dr. C. H. Wu (Harvard); *U.M.s:* A. G. M. Grézo (Magd.), M. Fishwick (Queen's), P. A. Keen (Queen's).

Inflation Group

Adviser: D. G. Holland (Wadh. and Institute). *Conv.:* E. A. Lisle (Magd.); *G.M.:* D. Hewitt (Ball.); *U.M.s:* C. F. Dehn (Ch. Ch.), T. R. Gunningham (Worc.), Mrs. J. A. Hargreaves (Barnet Ho.), D. S. Pearson (Queen's), Miss W. M. Verry (St. Anne's).

APPENDIX II

ECONOMIC SURVEY FORECASTS AND ACTUALITY

Table 1

Coal Output, Consumption and Exports

(Million tons)	1947		1948		1949	
	Forecast	*Actual*	*Forecast*	*Actual*	*Forecast*	*Actual*
Deepmined Production	—	187.2	200	196.7	202–207	202.7
Opencast ,, ...	—	10.2	11	11.7	13	12.4
Total Production	200	197.4	211	208.4	215–220	215.1
Home Consumption	—	184.9	195	192.7	198–200	195.1
Exports and bunkers[1]	—	4.8	16	16.3	17–20	19.3
Stock changes	—	+7.7	—	—0.5	—	+0.7

[1] Net of imports.

Table 2

Steel Output

(Thousand tons)	1948	1949 (*Forecast*)	1949 (*Estimated*)[1]
Steel Ingots and Castings	14,877	15,250–15,500	15,600
Steel Imports (ingots, semis and finished)	404	1,000	950
Total Supply of finished	11,122	12,000–12,250	12,000
Exports of finished	1,448	1,600	1,600
Supply to home market	9,674	10,500–10,700	10,400

[1] From B.I.S.F. Bulletin for December, 1949. Mainly based on figures for first 11 months.

Table 3

Consumption of Selected Raw Materials

(Thousand tons)	1947	1948	1949 (*Forecast*)	1949 (*Estimated*)[1]
Aluminium	159	174	210	185
Copper	350	360	375	325
Tin	26	26	27	21
Zinc	222	223	240	195
Hardwood (000 cu. m.)	1608	1700	1870	1950
Cotton	365	433	470	450
Wool	188	220	225	220
Leather	120	121	120	118
Sulphuric Acid	1357	1563	1620	1650

[1] Estimates based on consumption figures for first 10 months, with allowance for seasonal factor.

Table 4

Textile Output and Exports

(Million lb)	1948	1949 (*Forecast*)	1949 (*Estimated*)[1]
Cotton yarns	890	1040	920
Spun rayon and mixtures	60		70
Rayon (continuous filament)	148	300	170
Rayon (staple fibre)	86		105
Cotton Cloth (mn. linear yds.)	1900	2050	2000
Rayon Cloth and mixtures (mn. linear yds.) ...	500	570	580
Worsted Yarn	182	195	192
Woven Wool Cloth (mn. linear yds.)	267	280	280
Exports of woven cotton piece goods (mn. sq. yds.)	766	1000	910[2]
Exports of woven wool piece goods (mn. linear yds.)	76	87	78[2]

[1] Estimates based on figures for first 10 months, with allowance for seasonal factor.

[2] Based on first 11 months.

Table 5. *Agricultural Production*[1]

	1948 Survey		1949 Survey	
	June 1948 (*Forecast*)	*June* 1948 (*Actual*)	*June* 1949 (*Forecast*)	*June* 1949 (*Actual*)
Acreage (*thousands*)				
Bread grains...	2595	2340	2600	2028
Other grains	6050	6016	6200	5988
Potatoes	1423	1548	1400	1309
Sugar Beet	400	413	400	420
Linseed	150	86	200	58
Production (*thousand tons*)	1948–9 (*Forecast*)	1948–9 (*Actual*)	1949–50 (*Forecast*)	1949–50 (*Actual*)[2]
Bread grains...	2484	2408	2500	2189
Other grains	5190	5508	5330	5525
Potatoes	9961	11798	9800	8898
Sugar Beet	3600	4319	3600	3644
Linseed	—	35	100	23

		(1936–9=100)		(1947–8=100)	
	1947–8	1948–9 (*Forecast*)	1948–9 (*Actual*)	1949–50 (*Forecast*)[3]	1949–50 *First Half* (*Actual*)[4]
Livestock Production					
Milk	109	119	123	111	114
Beef and Veal ...	83	85	84	112	106
Mutton and Lamb	55	67	65	122	150
Pig Meat	29	43	57	116	284

[1] This Table in the *Survey* is open to some technical criticism. The use of the same column headings for acreage and production is confusing since the former refers to an annual census on a certain day while the latter refers to the production during a year. Also ' Preliminary Estimate ' is used to cover the results of the Census on June 4th, 1948 (which were virtually final), the crop for 1948–9 (which would not be noticeably increased by harvesting in the spring !) and livestock output for 1948–9 (in which there was a large element of forecast).

[2] Based an estimates of yield per acre at Dec. 1st (nearly final estimates).

[3] Obtained by dividing forecast indices for 1949–50 by the actual indices for 1947–8.

[4] June–November 1949 as a percentage of June-November 1947. For meat, June–October.

Table 6

Contribution of Home Production to Food Supplies, in calories and proteins

(Cannot be reconstructed)

Table 7. *Gross Fixed Investment.* (Cannot be reconstructed)

Table 8. *Export Targets and Performances*, 1949

Monthly Rates

	Per cent of 1938 Volume			Performance as per cent of end-year target	
	Exports Jan.–June	Exports July–Sept.	Target End 1949[1]	Jan.–June 1949	July–Sept. 1949
Machinery	208	203	214	97	95
Vehicles	316	296	299	106	99
Electrical Goods and Apparts.	243	219	265	92	83
Iron and Steel	132	131	138	95	95
Other Metal Goods	272	230	226	120	102
Textiles and Clothing	102	97	124	82	78
Chemicals	164	149	198	83	75
Pottery, Glass, Abrasives, etc....	225	205	254	89	81
Coal	32	39	57	56	68
All other Exports	113	102	122	93	84
Total	152	142	162 (155)	99	92

[1] The targets for Machinery and Vehicles are different from those published in the Survey. Those used here are the revised targets used at present by the Board of Trade.

TABLE 9

Exports of U.K. Produce, 1949, by Commodity Groups

Volume Indices 1938=100.

	Jan.-June Forecast	Jan.-June Actual	July-Sept.	Oct.-Dec.
Machinery	220	208	203	211
Vehicles	290	316	296	359
Electrical Goods and Apparatus	235	243	219	224
Iron and Steel	135	132	131	149
Other Metal Goods	235	272	230	243
Textiles and Clothing	104	102	97	95
Chemicals	170	164	149	164
Pottery, Glass, Abrasives, etc.	215	225	205	199
Coal	38	32	39	48
All other Exports	108	113	102	109
Total	150	152	142	159

Note.—These indices are obtained by revaluing 1949 quantities at 1938 prices and expressing as a percentage of the corresponding 1938 figure.

Both Tables 8 and 9 were compiled by Mr. F. Jones.

TABLE 10

Volume of Exports of U.K. Produce by Destination

(Cannot be reconstructed)

TABLE 11

Volume of Retained Imports by Main Groups of Commodities

Volume Indices 1938=100.

	1948		1949			
	First Half	Second Half	First Half Forecast	First Half Actual	Third Quarter	Fourth Quarter
Food and Feeding Stuffs ...	78	76	79	79	78	81
Raw Materials	81	83	90	89	95	83
Petroleum...	125	137	121	137	127	121
Other Imports	64	79	62	89	113	115
Total	81	81	83	85	91	88

Note.—Some explanation is necessary of the way in which the index numbers for the first half of the year, and for the last two quarters, were derived. The figures which are given in the *Survey* for the total volume of imports are taken from the *Board of Trade Journal*, that is, they are based on the c.i.f. value of shipments. On the other hand, the individual categories of imports are the same as those in the Balance of Payments White Paper. It was therefore necessary to estimate the c.i.f. value of these categories for the first half of 1949, with the aid of the Trade and Navigation Accounts and of note (iii) on Item 1, Table I, in the White Paper. The same estimate was also made for 1947 and for each half of 1948, and the results were compared with the f.o.b. figures given in the White Paper, in order to compute (where this was possible) individual correction factors for the different categories. These correction factors were used in estimating the f.o.b. value of imports during the third quarter of the year (shown in Table 14).

Note (iii), however, does not give sufficiently detailed information for complete confidence in the accuracy of the c.i.f. estimate. Moreover, the only price indices which are available for deflating these value estimates, to arrive at the volume indices in Table II, are based on the Board of Trade, and not on the White Paper, classification. The margin of error is greatest in the case of ' other Imports ', for which the index of Class III imports (' articles wholly or mainly manufactured ') was used ; for although this category consists mainly of manufactures, it includes also animals and seeds and tobacco.

It would be most helpful if the Board of Trade would publish the c.i.f. value of import shipments grouped not only in the traditional manner, but also in that of the White Paper. At the very least, a more precise account should be published of the differences between the two classifications.

Table 12

Distribution of Total Payments for Visible Imports by Sources

Percentages

	1948		1949		
	First Half	Second Half	First Half Forecast	First Half Actual	Third Quarter Actual
Western Hemisphere ...	33	32	28	26	28
Sterling Area	38	37	38	41	38
O.E.E.C. Countries	17	19	21	22	26
Other Countries	12	12	13	11	8
	100	100	100	100	100
Dollar Area	24	21		21.5	23
Other Western Hemisphere ...	9	11		4.5	5
Total Western Hemisphere	33	32		26	28

Note.—The percentages for the third quarter were derived from the estimates in Table 15.

Table 13

Invisible Payments and Receipts of U.K.

£ million

	1948			1949		
					Estimate	
	First half	Second half	Fore-cast First half	First half	Third qr.	First 3 qtrs.
Payments :						
Govt. Overseas Expenditure...						
(*a*) Military...	65	50	117	112	30	142
(*b*) Relief and Rehabilitatn.	13	1	6	7	4	17
(*c*) Germany	10	7	7	6		
(*d*) Administrative, Diplomatic, etc.	21	16	21	20	9	29
(*e*) War disposals and settlements	—29	—61	—65	—76	—5	—81
(*f*) Other Govt. net... ...	—2	5	10	10	5	15
Total net	78	18	96	79	43	122
Shipping	94	95	98	97	49	146
Interest, Profits and Dividends	55	53	56	55	27	82
Films (net)	7	3	2	3	1	4
Travel	32	45	30	34	30	64
Total payments	266	214	282	268	150	418
Receipts :						
Shipping	122	124	134	137	72	209
Interest, Profits and Divids.	83	91	81	83	44	127
Travel	15	18	17	19	14	33
Other (net)	60	70	85	67	35	102
Total receipts	280	303	317	306	165	471
Surplus (+) or Deficit (—)	+14	+89	+35	+38	+15	+53

Note. This table was compiled by Mr. Field and Mr. Frearson.

TABLE 14

Balance of Payments of U.K. on Current Account with all areas
£ million

	1948			1949		
			Forecast	White Paper	Estimate	
	First half	Second half	First half	First half	Third qr.	First 3 qrs.
Payments :						
Imports (f.o.b.)						
(*a*) Food and Animal Feeding Stuffs	422	—387	426	430	212	642
(*b*) Animals and seeds ...	10	14	10	13	7	20
(*c*) Raw Materials	306	315	392	356	180	536
(*d*) Tobacco	19	17	2	14	10	24
(*e*) Petroleum	62	65	54	58	27	85
(*f*) Machinery and vehciles	28	23	21	28	16	44
(*g*) Other imports	52	48	55	56	30	86
	899	869	960	955	482	1437
Receipts						
Exports and Re-exports f.o.b.	730	825	910	907	435	1342
Invisibles (net)	+14	+89	+35	+38	+15	+53
Surplus (+) or Deficit (—) on Current Account	—155	+45	—15	—10	—32	—42

Notes.—The figures for the third quarter, of the individual categories of imports, were arrived at by calculating the c.i.f. values from data published in the Trade and Navigation Accounts. Correction factors were applied to the individual items, taking the experience of the period January 1947—June 1949 as a guide.

TABLE 15. *Balance of Payments on Current Account by Areas*
£ million

In account with	1948			1949	
	First Half	Second Half	First Half Forecast	First Half Actual	Third quarter at half-yearly rate
Dollar Area					
Imports f.o.b.	216	186	270	205	224
Exports f.o.b.	84	95	160	90	78
Invisibles (net)	—33	—24	—5	—20	—18
Surplus or Deficit	—165	—115	-115	—135	—164
Other Western Hemisphere ...					
Imports f.o.b.	75	92		40	52
Exports f.o.b.	35	51		50	62
Invisibles (net)	+15	+21		+15	+14
Surplus or	—25	—20		+25	+24
Sterling Area					
Imports f.o.b.	338	316	360	395	362
Exports f.o.b.	350	391	435	454	430
Invisibles (net)	+38	+85	+55	+56	+52
Surplus or Deficit	+50	+160	+130	+115	+120
O.E.E.C. Countries					
Imports f.o.b.	157	169	202	206	246
Exports f.o.b.	178	204	220	213	196
Invisible (net)	+19	+10	+17	+8	+8
Surplus or Deficit	+40	+45	+35	+15	—42
Other Countries					
Imports f.o.b.	113	106	128	109	80
Exports f.o.b.	83	84	95	100	104
Invisibles (net)	—25	—3	—32	—21	—26
Surplus or Deficit	—55	—25	—65	—30	—2
Total					
Imports f.o.b.	899	869	960	955	964
Exports f.o.b.	730	825	910	907	870
Invisibles (net)	+14	+89	+35	+38	+30
Surplus or Deficit	—155	+45	—15	—10	—64

Note.—The figures for Imports c.i.f. and Exports f.o.b. for the third quarter 1949 are obtained from the *Board of Trade Journal*, 12–11–49. Imports were reduced by 15 per cent, to make them comparable with the White Paper; the figures for exports were left unchanged. In arriving at the estimates for the third quarter, the figures given in the Trade and Navigation Accounts were taken as a guide. These had to be made comparable with the figures for the other periods, which are taken from the Balance of Payments White Paper. An analysis was therefore made by Mr. F. J. Bayliss of the relation between the Board of Trade and the White Paper figures, for each area separately, for 1947 and the three ensuing six-month periods. These relationships (which varied considerably as between the different areas) were used as a basis for estimating the appropriate margin by which the Board of Trade figures should be altered in each case.

Invisibles.—It was not possible to work from the categories of receipts and payments to a net balance for each area. Instead we have worked from the overall invisible surplus of £30 m. in the third quarter of 1949 to a net balance for each area. This method depends on two main guiding factors :—

(*a*) Both payments and receipts were running at a higher rate in the third quarter than in the first half but receipts were increasing faster than payments. If the balance with each area was affected to the same extent by our increased net income from invisibles the surpluses would be increasing and the deficits decreasing.

(*b*) The increase in shipping receipts and in both payments for and receipts from travel were the important changes in the third quarter, and we have used these as crude indicators of which areas' net invisibles would be most affected.

TABLE 16. *United Kingdom Balance of Payments. Capital Account*
£ million

	1947	1948 First	1948 Second Half	1949 First Half Forecast	1949 First Half Actual	1949 Third Quarter Estimate	1949 First Three Qtrs. Estimate
I. Net Gold and Dollar Deficit							
1. United Kingdom	657	185	126	130	153	86	239
2. Rest of Sterling Area ...	203	18	8	15	43	28	71
3. Whole Sterling Area: Net Gold & Dollar payments to non-dollar countries ...	164	51	35	50	43	19	62
	1024	254	169	195	239	133	372
II. Net reduction in U.K. external capital assets:							
Non-Sterling Area	—73	62	26		—15	(—20)	—124
Sterling Area ...	—191	—141	—47		—89		
	—264	—79	—21		—104	(—20)	—124
III. Net increase in sterling liabilities:							
Non-Sterling Area	—1	—140	—107		—27	—8	—35
Sterling Area ...	—129	+120	—86		—98	—73	—171
	—130	—20	—193	-180	—125	—81	—206
Net Overseas Disinvestment ...	630	155	—45	15	10	32	42

Note.—The gold and dollar deficit has been given in official statements. In the breakdown for the third quarter, the United Kingdom deficit has been taken from Table 15, with an addition for items falling outside the current account, while the sterling area deficit was estimated from U.S. and Canadian foreign trade statistics. The third item is a residual. The estimate of net overseas disinvestment is taken from Table 14, and the figure for changes in sterling balances is derived from Table 5. Item II is a residual.
This table was compiled by Mr. Day and Mr. Fais.

TABLE 17. *Settlement of the Gold and Dollar Deficit*

	1947	1948 *Jan.–June*	1948 *July–Dec.*	1949 *Jan.–June forecast*	1949 *Jan.–June Actual*	1949 *Third Quarter*
Drawings on:						
U.S. Credit	707	74	—		—	—
Canadian Credit	105	13	—		14	7
Drawings on International Monetary Fund:						
By U.K.	60	15	—	195	—	—
By India	—	11	6		8	—
South African Gold Loan ...	—	80	—		—	—
Receipts under E.R.P.	—	22	147		166	71
Decrease in gold and dollar holdgs	152	39	16		51	55
Total net gold and dollar deficit	1024	254	169	195	239	133

This table was compiled by Mr. Day and Mr. Fais.

TABLES 18 AND 19. *Distribution of Manpower in Great Britain*[1]
(Percentage of previous December)

			Dec. 1947 *Forecast*	*Dec.* 1947 *Actual*	*Dec.* 1948 *Forecast*	*Dec.* 1948 *Actual*	*Oct.* 1949[2] *Forecast*	*Oct.* 1949[2] *Actual*
Co	Coalmining		105	104	104	101	101[3]	98[3]
U	Utilities		107	102	104	103	101	106
R	Transport		100	104	102	102	99	100[4]
A	Agriculture		104	101	105	103	101	100[4]
B	Building		104	106	88	99	100	100[4]
BM	Building Materials		104	103	97	99	—	—
E	Engineering and Shipbdg. ...		101	102	101	101	100	100
Ct	Cotton ...	T ...	105	104	122	107	103	103
W	Wool				112	104	103	103
T	Other Textiles				114	105	102	105
C	Clothing ...	OM ...	102	105	96	101	100	106
F	Food, etc. ...				96	103	100	105
Ch	Chemicals ...				100	102	102	104
OM	Other manufactg. and mining				101	100	101	104
D	Distribution	S ...	101	104	99	102	101	102[4, 5]
S	Professional and financial services				100	100	100	100[4]
N	National Govt. (Civil Service)	G ...	96	101	103	104	97	97
I	National Govt. (Industrial)				96	97	—	—
L	Local Govt.				97	104	101	101
CE	Civil Employment	...	101.5	103.3	99.9	104.4	100.3	101.3
WP	Working Population	...	99.1	100.0	98.4	99.5	100.1	100.7

[1] For 1947 and 1948, one could use either the manpower statistics as currently available to the authors of each *Survey* or the revised statistics now available to us. It was decided to fit the planned changes in employment to the figures for the beginning of the year as we now know them to have been, and to compare these with actual development taken from the most recent data. The point is however of little practical importance.

[2] Scaled up to annual rates of increase.

[3] End-year.

[4] Including a correction for seasonal influences.

[5] November returns indicate an acceleration of the increase in distribution, but this is a seasonal matter and the October figure has more meaning.

TABLE 20. *National Resources and Expenditure*
(£ million)

	1948	1949 *Fore-cast*	1949 *Prely. Est.*		1948	1949 *Fore-cast*	1949 *Prely. Est.*
		At end-1948 prices				At end-1948 prices	
National income ...	9,675	10,000	10,300	Consumption ...	8,004	8,200	8,220
Depreciation ...	825	900	900[1]	Government ...	1,914	2,040	2,120
Net import surplus	120[2]	—	100	Gross investment...	(2,352)	(2,330)	(2,630)
				Total	12,270	12,570	12,970
				Net indirect taxes	–1,650	–1,670	–1,670
Total resources available ...	10,620	10,900	11,300	Total resources available ...	10,620	10,900	11,300

[1] No allowance is made for the increase in legal depreciation.

[2] Subsequently revised to 110. The original estimate is used, however, because doubtless there has been as usual a general revision of estimates.

TABLE 21. *Use of National Product*[1]
(Percentages)

	1947	1948	1949 *Forecast*	1949 *Preliminary Estimate*
Consumption	65	62	62	60
Government	21	18	18	18½
Capital Formation	21	22	20	23
Export Surplus	—7	—2	—	—1½
Gross National Product	100	100	100	100

[1] It appears from the text that this is a factor cost analysis, which provides a rather large import surplus (because the value of exports is reduced by the indirect taxes attributable to them).

TABLE 22. *Personal Consumption Expenditure*
(£ million)

	1948 *At current prices*	1948	1949 *Forecast*	1949 *Prelimy. Estimate*	*Prelimy. Estimate* 1949 *as* % *of* 1948 at *fixed prices*
		At end-1948 *prices*			
Food	2,181	2,175	2,300	2,250	104
Drink and Tobacco	1,532	1,555	1,515	1,540	99
Rent, Fuel and Light	947	955	965	960	101
Household goods	515	520	530	560	108
Clothing	853	900	900	920	102
Other	1,976	1,980	1,990	1,990	101
	8,004	8,085	8,200	8,220	102

TABLE 23. *Food Consumption in the U.K.*

	Pre-War	1947–8	1948–9 *Forecast*	1948–9 *Provisional*
(*a*) *Daily intake Grams per head*				
Protein—Animal	42.7	41.0	41.0	40.7
Vegetable	37.2	46.1	47.9	47.5
Total	79.9	87.1	88.9	88.2
Fat...	130.2	104.8	110.0	110.0
Total energy value (calories) ...	3,000	2,860	2,990	2,980
(*b*) *Pounds per head head per annum*				
Dairy products	38.3	48.0	50.1	50.6
Meat (edible weight)	109.6	74.8	70.8	69.8
Fish, poultry (edible weight) ...	32.8	37.7	38.0	35.4
Eggs (shell equivalent)	24.0	21.3	22.3	22.0
Oils, fats (fat content)	45.3	35.6	40.0	40.6
Sugar, syrups	109.9	88.0	91.6	91.2
Potatoes	176.0	257.8	280.1	266.3
Pulses, nuts	9.6	6.0	6.3	6.9
Fruit	141.4	138.4	143.3	128.6
Vegetables	107.5	111.8	118.0	115.6
Grain products	210.1	242.7	252.8	252.8
Beverages	14.7	14.5	14.6	13.5

(Source: *Cmd.* 7842)

TABLE 24. *Revenue Account of the Public Authorities*
(Cannot be reconstructed)

TABLE 25. *Combined Capital Account*
(Cannot be reconstructed)

U.S. IMPORT PROPENSITIES SINCE THE WAR

Various estimates[1] of the marginal propensity of the U.S. to import, or of the income or employment elasticities of demand for imports, have appeared in the last few years. These estimates have been based on data published by U.S. Government agencies, and cover a period of 1921–38 at the most. Chang has carried the analysis a step further by calculating the income and price elasticities, during the same period, for U.S. imports classified as in the statistics published in the *Survey of Current Business.* Since the results appearing here are also concerned with some of those groups, the data and methods used will generally be compared with those used by him. In view of the general belief that the marginal propensities to import are now considerably lower than they were before the war, and this not only because of shortage of supplies, but also because of a structural change in the U.S. economy, it has seemed worth while to attempt to make an analysis of the post-war period, though its brevity, and the existence of factors supposed to prevent the appearance of a normal equilibrium, may make the results greatly open to question.

Chang's procedure starts from the assumption that there are altogether five important factors which affect the level of real imports, apart from trend effects which he eliminates from his series at the outset. These important factors are (1) the Real National Income or Employment in the importing country (the United States); (2) the price of imports in the producer's market; (3) tariffs; (4) the price of home-produced goods, which are regarded as substitutes for imports; (5) in some cases, the level of exports, since some imported goods are later re-exported in a different form, though they have been counted as retained imports. Numbers (2), (3) and (4) are combined by producing a price index of imports relative to home produced goods, corrected for import duties. The resultant series is used in conjunction with that for imports and number (1) to obtain an estimate of the income and price elasticities of demand for imports; the quantity of exports is ignored in dealing with the U.S. elasticities, since it is not thought to be important here. The essence of the method is to apply regression analysis, not to the series themselves, but to another set, which is prepared by taking the logarithms of them. The elasticities are then yielded as the regression co-efficients of the appropriate variables.

The use of this method has one technical objection, namely, that errors of measurement are supposed to occur only in the dependent variable, imports, and not at all in the other variables, but it is customary to ignore this point. Barna has also pointed out that if the period is split into two parts, then the estimates of elasticities for the two parts can be different. There are no real grounds for confidence in the assumption that the elasticity, or the marginal propensity to import, stays constant over a period of up to twenty years, through considerable social and economic changes. The use of four-yearly periods, as outlined below, reduces this difficulty. This is particularly important in dealing with economic classes of imports, for it is easy to imagine that changes in the level of investment or income distribution, to mention only two factors, might well change the balance between these classes, and the marginal propensities to import the goods of which they are composed, while changing the overall marginal propensity much less. It is therefore very important of make estimates only from periods in which sudden changes did not occur, and four-yearly periods may be chosen with this in mind.

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[1] Adler, *American Economic Review*, 1945. Hinshaw, *Review of Economic Statistics*, 1945. Chang, *Review of Economic Studies*, 1945–6, No. 34.

A very general assumption which underlies the use of regression analysis in this way is that successive values of the variables are independent. To give an illustration, if in any two years, not necessarily successive, the levels of National Income and of the other variables determining imports are the same, then the levels of imports in those two years, as determined from the regression equation, will also be the same, notwithstanding the possibility that in the one case National Income, say, may be have been falling, and in the other case rising. In other words, the historical behaviour of the independent variable is assumed to have nothing to do with the level of imports. This may not be true, but the data available do not decide the issue, so this characteristic of regression analysis does not at present invalidate its use.

The data available in the post-war period cover necessarily a far shorter interval of time than the 15 or more years available vo the pre-war studies, and this in itself dictates a change of method, since clearly the number of annual observations is far too small to allow the drawing of valid inferences. It is also partly a matter of taste whether one should attempt to estimate elasticities of demand or marginal propensities to import, and here propensities are chosen. But the choice is only a matter of taste because knowledge of the relations between imports and National Income is inadequate. If N be National Income and I imports, then the assumption of constant income-elasticity of demand implies that the relationship between the two is of the form

$$I = kN^e$$

where e is the relevant elasticity, and k a constant. The assumption of constant marginal propensity to import, on the other hand, implies that the relationship is of the form

$$I = a + bN$$

where a is a constant, and b is the relevant marginal propensity. These assumptions are not reconcilable, except for small changes of N, and neither may be correct. The relationship may well be of some other, and more complicated, type. But these are simple assumptions, and the date available do not justify further complication.

But the results quoted later have not been estimated directly from an equation of the type shown above. Instead, first differences of the series have been taken, so that the basic equation has the form

$$\Delta I = a_1 + b\Delta N$$

in which b is still the marginal propensity to import and a_1 is a constant, the significance of which is clear when it is remembered that the first differences of each series are taken between values which occur with a fixed interval of time between them. The constant a_1 is the representative of a linear trend in the quantity of Imports through time, and its appearance in the equation separate from ΔI and ΔN corresponds to the separation of a linear trend from the series before the regression analysis begins. Taking first differences has another advantage, in that the fixed interval of time between observations can be one year, and thus a form of elimination of seasonal fluctuations occurs. This elimination is not that which is usually performed, since it takes no account of the proportional changes of the trend values of the variables, and to that extent implies a different conception of the character of seasonal variation. The more usual method was thought undesirable in dealing with post-war imports, etc., since the evidence that pre-war patterns of seasonal variation hold must necessarily be slight. In the actual analysis, quarterly values of Imports, National Income, and Prices were taken, and the period covered was from the second quarter 1945 to first quarter 1949, during which National Income first fell and then rose again, finally falling a little in the last quarter.

With regard to prices, it was not possible to follow Chang's methods, since import prices were not readily available, but only the Wholesale Prices published in the *Survey of Current Business*, and these are the prices, the first differences of which enter into the regression equations used. But this is not thought to be a serious fault, since the ratio of import to home prices is the ratio of two prices which are quoted at different points of the commercial transations through which the imports must pass; and, also, it is not clear how nearly perfect home products now are as a substitute for imported goods, and therefore the economic justification for using the ratio of prices as a determinant of the volume of imports is likewise unknown. But, undoubtedly, knowledge of import prices would improve the validity of the analysis. Here it is assumed that the prices of imported goods, at the wholesale level, have moved with the prices of home-produced goods; this is unlikely to be strictly true, and variations in import duties, in particular, might upset the relationship. But variations were small, and the change in the tariff, to be an invalidating factor, must probably be considerable and extensive, and so can be ignored, in the light of other faults in the data, during these periods. Among these faults may be counted the doubtful accuracy of the National Income statistics. This series is frequently revised after publication, and while the revisions are not large compared with the quarterly totals, they are considerable when compared with the average size of quarterly changes. It should also be borne in mind that the first differences used here are not altogether independent of each other; each covers two quarters also covered by the previous first difference.

Results

To a change in the National Income of $1 there corresponds a change in dollar value of Imports of :—

	1934–7 $	1945–9 $
Crude Materials	+ .02	— .01
Semi-manufactures	+ .05	+ .02
Manufactures	+ .07	+ .04

Imports for consumption in 1934–7 were about 3 per cent of Gross National Expenditure, and in 1945–9 rather less than 1 per cent.

The figure quoted for 1934–7 were calculated in the same way as those for the post-war period, and they provide a basis of comparison, since these years are considered to be normal representatives of the decade prior to the war, so far as these three commodity groups are concerned, except that drought in the U.S. may have caused certain crude materials which were also farm products in the U.S. to be imported in greater quantity. These three groups cover three-fifths, or rather more, by value of the visible imports into the U.S. The figures are not put forward as being accurate, even to the unit quoted, for reasons given above, and they diverge from other estimates of the marginal propensity to import over the period 1924–38, being rather higher. But they are indicative of the change which has occurred in the components of the marginal propensity to import between the two periods, indicating a fall in all three classes.

The negative sign in the case of Crude Materials is a curious anomaly, since it seems quite unreasonable that imports in this broad class should decline as National Income rises. It may arise simply from defects in the basic data; or it may be a transient effect caused by the running down of stock or raw materials at the end of the war, since peacetime stocks may run comfortably at a lower level, both supplies and consumption being liable to less sudden changes. Whatever the explanation, it appears that this marginal propensity is now very low.

The results quoted above give a numerical formulation to a fact already known, namely that U.S. imports have declined in relation to changes in National Income. They suggest that the pre-war marginal propensities are approximately halved, and that further discussion of the wartime changes in imports should be towards discovering import-saving developments in the American economy. These can be of three types; first, the home production of commodities and goods purchased abroad; second, the development of substitute commodities; and third, the adaptation of final consumers' demand itself to the absence of certain goods. It is also suggested that, apart from these direct effects of wartime conditions, the change in the distribution of income in the U.S., consequent on the approach to full employment, has put a larger share of purchasing power into the hands of people who do not demand imported goods, particularly ' quality ' imports. This would be of importance in the case of manufactured goods.

There is strong evidence that a part of the change in both the marginal and average propensities to import is due to the physical conditions of the war period. Imports from Europe and Asia are most reduced, those from Africa less, and those from the American Continent least of all, facts which correspond closely with the availability of supplies from these sources during the war. Clearly caution is necessary in using the results quoted above in arguments concerning particular regions or countries. Most exporters to the U.S. are specialists in a few commodities; only Britain of all European countries, for instance, having a fairly diversified range of exports. The most fruitful line of advance will therefore be the description of changes in the demand for particular narrow groups of commodities. Some of these changes have been spectacular; for instance, the substitution in war-time of synthetic for natural rubber, a substitution now largely reversed, and the apparently permanent substitution of nylon for Japanese silk. But these spectacular changes account for only a fraction of the observed change in the propensities, which is therefore due to the accumulation of many smaller ones, for the most part uninvestigated.

J. A. HARGREAVES.

ERRATUM

p. 3. Table III. Age 25. Number should read 17505.

p. 4. Table IV. Total of Amount of Capital. General Population should read (£mill.) 13,683—15,155.

p. 6. Table VIII. Number of Persons. Medical Practitioners Cumulative Percentages should read :

More than £100	...	88.7
,, £1,000	...	71.7
,, £5,000	...	30.7
,, £10,000	...	15.3
,, £25,000	...	2.7
,, £100,000	...	0.1